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**REPORT
OF
THE
SELECT
COMMITTEE**



**ON
TOLL ROADS
AND
HIGHWAY FINANCING**



ONTARIO

MR. J. P. ROBARTS, Q.C., Chairman
MR. D. J. COLLINS, Secretary
1957



Ontario. Legislative assembly. I Committee I
Select committee on Toll roads
Report

REPORT
OF THE
SELECT COMMITTEE
ON
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**TO THE HONOURABLE
THE LEGISLATIVE ASSEMBLY
OF THE PROVINCE OF ONTARIO**

HONOURABLE MEMBERS:

On Tuesday, March 27, 1956, during the Second Session of the Twenty-fifth Legislature, the following resolution was passed on the motion of the Honourable Leslie M. Frost, Q.C., Prime Minister of Ontario:

"That a Select Committee of the House be appointed to study all matters relating to toll roads and to report on the application of the same to certain areas having regard to the needs of the Province of Ontario.

"And that the Select Committee have authority to sit during the interval between Sessions and have full power and authority to call for persons, papers and things and to examine witnesses under oath, and the Assembly doth command and compel attendance before the said Select Committee of such persons and the production of such papers and things as the Committee may deem necessary for any of its proceedings and deliberations for which purpose the Honourable the Speaker may issue his warrant or warrants."

This Committee, having completed its work, respectfully presents the report which follows:

J. P. ROBARTS, Chairman.

Members of the Committee:

J. A. C. AULD

A. J. CHILD

A. C. JOLLEY

D. C. MACDONALD

A. A. MACKENZIE

P. MANLEY

A. J. REAUME

J. ROOT

W. E. SANDERCOCK

J. YAREMKO

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INTRODUCTION

The Select Committee on Toll Roads presented an interim report to the Legislature on March 21, 1956. This report was of an interim nature only because the Committee had been unable to complete its work in the short space of six months, and therefore asked

"to be reconstituted to continue its study of the application of the toll principle to divided, controlled access highways already constructed or partially constructed, and to consider the further application of this principle to various specific projects in parts of the Province which the Committee has not had the opportunity to visit."

The Select Committee on Toll Roads, as a result, was reconstituted on March 27th, 1956, on the motion of the Honourable Leslie M. Frost, Prime Minister of Ontario, seconded by the Honourable Dana Porter. In the motion the Committee was continued with the same terms of reference,

"to study all matters relating to Toll Roads and to report on the application of the same to certain areas having regard to the needs of the Province of Ontario".

Before the motion was put, however, the Prime Minister stated: (Legislature of Ontario Debates for March 27, 1956, page 1586):

"in the light of what some hon. members have said about the ton-mile charges, and matters of that kind . . . I feel the terms of reference are broad enough to permit the committee to look into that feature of highway revenue. As a matter of fact, the ton-mile charge is actually a toll charge in many ways" . . . "it will be for the committee then to carry on such other investigations as it may deem necessary, in regard to this very important subject".

This added assignment, therefore, gives the Committee a two-fold responsibility—one to investigate the application of the toll principle to existing, partially completed and planned highways and structures in the Province, and secondly to review and study our present highway revenue sources, the adequacy of this revenue, and whether the interest of equity would be served by the introduction of a weight-mile tax or some variant of it. The present system of highway user taxation in the Province is licence fees and fuel taxes. A study of the adequacy of our present tax system actually involved the Committee in the investigation of the complete field of highway financing. In effect, therefore, the Committee became concerned with "Toll Roads and Highway Financing".

PROCEDURE

Such a study presented a great challenge to the Committee and gave the Members the opportunity to consider not only Toll Roads as a means to assist Ontario in its highway problem but also to consider alternative methods of raising money to finance an accelerated highway construction programme. This was indeed fortunate since Toll Roads are only one aspect of the problem. The Committee in its interim report had already recognized that "Toll financing is an expedient to enable the state to build high cost expressways and bridge projects quickly on a user pay system, when revenues are below expenditures". (page 22).

It was decided to explore the application of the Toll principle to specific highway projects in Ontario, by visiting representative communities in various areas including those in which previous traffic flow information indicated that a Toll Facility might be considered. At these meetings community representatives were urged to comment not only on the public attitude to Toll Roads but also to express opinions on highway taxation and road requirements in the area. At the same time the Committee decided to visit the State of Ohio to discuss with officials there the operations of the Ohio Turnpike which was said by some to be in difficulty, and to study the administration of Ohio's axle-mile tax which is a form of the weight-mile tax. The State was visited on May 23rd and 24th and the Committee was kindly received and assisted in every possible way by the representatives of the Ohio Turnpike Commission and the Department of Highways.

Meetings were held in the following Ontario communities:

Port Arthur and Fort William	Hamilton
Atikokan	Welland
Fort Frances	Fort Erie
Kitchener	Belleville
London	Kingston
Chatham	Brockville
Windsor	Cornwall

These local meetings provided a forum for municipal officials and citizens to express their views on Toll Facilities and the road problems generally in the area. It was obvious to the Committee that there is a keen interest on the part of the public in matters relating to highways. Many of the witnesses were frank in saying that if it were necessary to complete urgently needed highways such as No. 401 by making them Toll Roads then they would support such an approach. At the same time other local road problems were described and greater provincial assistance was requested. Some municipal representatives suggested that urban toll expressways may be required to finance high cost structures which "would cater to traffic that originated from outside the local area and it would be inequitable to finance the construction of these roads as local improvements". It was further recommended that these tolls be collected by the imposition of a charge taking into consideration the weight of the vehicle. Everywhere the Committee discovered that the people of Ontario realized the importance and the great advantages of an adequate road network and expressed willingness to pay their fair share for such roads. Typical of the attitude encountered by the Committee is one comment, "I think it is the proper thing for everybody to pay for these main roads . . . some will not be using them, that is true, but if they wish to use them, they are there. It is the same with our schools . . . I think share and share alike is the same thing and I believe that a raise in the gasoline tax or the registration fees is the only way to get money for our highways; then everybody who uses the roads pays for them".

Opinions of various witnesses during our Ontario meetings were often at variance concerning the way money should be raised. However, it is reassuring to review the honesty and directness with which people expressed their understanding of the problem and their willingness to contribute what is necessary to correct road deficiencies. There is a growing awareness that the business life of the community depends in large part on adequate transportation facilities to serve its needs and that highways are becoming evermore important in this picture.

In the main it was agreed that it would be in the public interest to increase Ontario's highway budget to permit an increased tempo of construction and at the same time provide greater financial assistance to struggling municipalities.

The remaining meetings of the Committee, which were held in Toronto, concerned in the main, problems relating to highway financing. The Members studied such tax approaches as weight-mile tax, gross-ton mile tax, axle-mile tax and gross-receipts tax. Considerable information was obtained on the administration of these taxes from such states as New York, Ohio, Oregon, California and Virginia. Mrs. Winifred R. Long, of New York State, was kind enough to meet with the Committee in Toronto and in an extremely able analysis set out the policy of the State in regard to weight-mile taxes, the equitability of such a tax and the problems the State was facing in its administration. Mr. C. F. Conlon, Executive Secretary of the National Association of Tax Administrators, in Chicago, was kind enough to sit with the Committee, in December, and discuss some difficult problems which remained to be resolved.

Many interested persons and groups from all parts of the Province accepted the Committee's invitation to appear and discuss the subject matter under study. Advertisements were placed in all the local papers inviting representations at meetings held outside Toronto, and the Members are greatly indebted to those who took time to appear. Representatives of the following organizations and municipal corporations appeared:

- Ohio Turnpike Commission
- Ohio Department of Highways
- City of Port Arthur
- Northwestern Freighters Association
- Northwestern Ontario Traffic Association
- Northern Ontario Development Association
- Northwestern Ontario Lumber Operators Association
- City of Fort William
- Tourist and Publicity Committee of Port Arthur
- Fort William Chamber of Commerce.
- Port Arthur Chamber of Commerce
- Town of Atikokan
- Atikokan Chamber of Commerce
- Steelworkers Union

Progressive Conservative Association of Atikokan
Liberal Association of Atikokan
C.C.F. Association of Atikokan
Atikokan Transportation Company
Town of Fort Frances
Fort Frances Chamber of Commerce
Ontario and Minnesota Paper Company
Municipality of Chappel
Municipality of LaValle
Co-operative Bureau
Municipality of Emo
Municipality of Alberton
Rainy River District Municipal Union
Rainy River Chamber of Commerce
City of Kitchener
City of Waterloo
Township of Waterloo
County of Waterloo
City of London
Middlesex County
Westminster Township
No. 3 Highway Association
City of St. Thomas
City of Chatham
County of Kent
Municipality of Highgate
Municipality of Oxford
Municipality of Ridgetown
City of Windsor
City of Hamilton
Hamilton Trades & Labour Council
Wentworth Suburban Roads Commission
Ontario Traffic Conference
Town of Dundas
City of Welland
Town of Thorold
Township of Thorold
County of Welland
Fonthill-Welland Urban and County Roads Commission
Township of Bertie
Municipality of Humber Crescent
St. Catharines Suburban Roads Commission
Township of Pelhar
Town of Fort Erie
Peace Bridge Commission
Fort Erie Chamber of Commerce
Municipality of Crystal Beach
Automotive Transport Association of Ontario
Railway Association of Canada
Ontario Association of Motor Coach Operators
County of Hastings
City of Belleville

Township of Richmond
Township of Sidney
Township of Thurlow
County of Lennox
Township of Morley
Municipality of Ernestown
City of Kingston
Township of Kingston
Town of Prescott
Prescott Chamber of Commerce
United Counties of Leeds and Grenville
Town of Brockville
Brockville Chamber of Commerce
Town of Gananoque
Township of Kitley
Township of Yonge Front
Township of Yonge and Escott Rear
Township of Elizabethtown
County of Carleton
Township of Fitzroy
Municipality of Fitzroy
Municipality of Cardinal
Eastern Ontario Development Association
Municipality of Maxville
Township of Finch
Cornwall Board of Trade
United Counties of Stomont, Dundas and Glengarry
Township of Charlottenberg
Howard Smith Paper Company Limited
Cornwall Retail Merchants Association
Ontario Motor League
Safety Foundation, Washington, D.C.
National Association of Tax Administrators

ACKNOWLEDGMENTS

The Committee wishes to acknowledge the fine assistance given by the staff of the Departments of Highways, Economics and the Provincial Treasurer. In a technical field of study such as Toll Roads and Highway Financing, Members of the Legislature must of necessity ask for assistance in obtaining detailed information and counsel on specific problems in order to come to a conclusion and to prepare recommendations for the Legislature. Even among the experts there is considerable debate about what constitutes the best approach in the matter of tax equity but it is hoped that the following report will provide a fair and proper approach for Ontario.

Fortunately for the Committee this problem has been given considerable study by officers of the Ontario Public Service and their able presentations were extremely useful in determining a policy for Ontario. Their comments and advice together with those of representatives of other jurisdictions greatly assisted the Committee in preparing this report.

In Ohio the Committee was assisted by Mr. Charles K. Bradley, Deputy Director of the Department of Highways, and Messrs. J. J. Heier, G. J. Thormyer, C. R. Leavens and C. L. Emmons. A separate meeting was held with representatives of the Ohio Turnpike Commission attended by Mr. C. W. Hartford, Acting Executive Director, Messrs. J. Soller, C. E. Westervelt, Jr., C. H. Makeever, J. D. Hartshorne, J. C. Casto, T. B. Willison and Mrs. Ruth Lloyd Wilkins. As mentioned in the Foreword, Mrs. Winifred R. Long of the New York State Joint Legislative Committee on Carrier Taxation, and Mr. Charles F. Conlon, Executive Secretary, National Association of Tax Administrators, were of considerable help to the Committee in providing an outside viewpoint on Highway Financing problems which we face in common with American jurisdictions.

In Ontario the Committee is pleased to acknowledge the fact that we have outstanding men in the fields of planning, research and general highway engineering. The Honourable James N. Allan, Minister of Highways and the Honourable Dana Porter, Provincial Treasurer, gave full co-operation in making certain members of their staffs available to the Committee for assistance, often on short notice, which of course resulted in some interference with regular activities. In particular, we wish to acknowledge the fine work of Mr. Walter Q. Macnee and Mr. Ronald Cooke, who served as advisors to the Committee. Mr. W. J. Fulton, Deputy Minister of Highways, who was then Director of Planning, Mr. George Gathercole, Provincial Economist, and Mr. P. T. Clark, Comptroller of Revenue, presented able reports on specific problems of concern to the Committee.

The Members wish to make particular reference to the fine work of the highways staff engaged in the Highway Needs Study which was presented to the Committee by Mr. Philip Wade of the Department and Mr. J. C. Granum of the Safety Foundation, Washington, D.C.

THE PROBLEM

The present highway problem is a direct result of the astounding development in the use of motor vehicles in Ontario over the past forty years. This development has brought in its wake tremendous public pressure for improved road facilities, and as a consequence, the financial requirements for the road construction and maintenance budget have far out-stripped our revenue.

The Committee in its investigations into Toll Road financing was impressed with the urgency for construction of modern multi-lane highways in this Province. Although such construction is urgent, it is also obvious that rural and urban demands for an adequate road network cannot be neglected. The authors of the Highway Needs Study of the Department of Highways appeared before the Committee and reported that the capital needs of King's Highways, excluding municipal construction through to 1976, total 1.9 billion dollars. The backlog at the present time, again excluding municipal roads in communities above 5,000 population, is \$782,000,000. In addition to the amounts set out above, should be added another 25 per cent to cover the backlog and demands of municipal highways. This is based on the estimate that between 50 to 60 per cent of future traffic in the next twenty years will travel on urban roads within the municipal borders. This demand will, therefore, reflect itself in greatly increased pressures for improved construction in municipal areas.

Everyone agrees that there is an urgent need for an accelerated road building programme in both rural and urban areas. Our demands for multi-lane highways will absorb a great percentage of the budget. Where, then, will the money be found to finance such construction? The Committee, after considering very carefully the Toll Road approach to this problem, and at the request of the Legislature, made detailed studies of highway financing programmes carried out in other jurisdictions and related them to the conditions and experience of this Province.

The cause of the present highway situation, in which Ontario finds itself with a tremendous backlog of work, is a result of a radically changed pattern of use from that which existed at the turn of the century.

A knowledge of the history of the development of roads is important to understand the present situation. The early philosophy of building roads was to link communities and market places and thereby provide a means for essential commercial and passenger traffic to travel from one point to another. Such roads were considered adequate if they were passable and were very important to the life of the Province even though in a very rough state of development. They were particularly important to communities without navigable rivers and lakes. For many years passenger traffic was of no particular consequence in determining the conditions of the roads, and the methods of transportation were not such as to create demand for travel. Travelling was hazardous and slow and the only trips made were those of necessity. As a result, each community tried as much as possible to be self-supporting.

At the turn of the century the development of the internal combustion engine changed our demands for roads. Previously the main justification for a road was for access to a community or to private land. Since land access played such an important part, roads were financed in the main on a local land tax basis. The demands of the motor vehicle owners, which found effective voice in the Good Roads Association, prompted improved hard surface roads which were constructed in the more populous areas.

Community development depended upon the size of the local market which in turn was determined by population density and the extent of transportation facilities. To be at all favourably located a community required transportation arteries which would permit travel by either water, rail or road. The best locations had all three, for example, Toronto. In the last thirty years the highway has played an evermore important part in this development. As a result industry and commerce can now be highly centralized and still serve outlying districts with efficiency and dispatch. In this development, truck transportation has enjoyed tremendous expansion not only because of more efficient vehicles, but more directly the result of a greatly improved and extensive road system open the year around. In this respect Ontario's winter road maintenance programme is outstanding on the continent. Modern industrial scheduling depends in part on the fast and prompt movement of goods which is provided with flexibility and speed by truck transportation.

Passenger traffic has joined in this demand for better highways and now makes up an important segment of the traffic on any road. It was just a short time ago that people lived within one community and never travelled over twenty or thirty miles from home, but now the pattern of life has changed drastically. The 1,692,363 vehicles registered in this Province demand and expect road facilities designed and constructed to meet their requirements for travel. This demand is interpreted in various ways by planning engineers. One useful device is by making actual volume counts of vehicles on highways. Planning for new highways, of course, must take into consideration many other requirements which will be outlined later in the report. It is important for highway planning officials to consider not only present traffic demands, but induced demands which will result when a better highway is available. A second consideration is the economic value of a new or improved road to the Province generally. People who at present avoid travel because of congestion and risk of accident would be more than happy to use improved road facilities which are not congested, have better control of access and are therefore much faster and safer. New highways must be planned with foresight as to what the future demands may require so that the high cost of adding new lanes of traffic or relocating the highway are avoided. It is probably quite safe to predict that any major highway construction in the Toronto area should make provision for at least eight lanes of traffic. It is not necessary in making this provision to actually construct the lanes, but bridges and structures at grade separation should be designed to accommodate such traffic. Highway 401 as a Toronto by-pass is at the present time flooded with traffic well over the estimates of the highway planners. This is not indicative of poor planning, but the cause is found in inadequate municipal road arteries which should be developed in parallel with connecting highway links. Commuter traffic wishing to travel one or two blocks has no place on a semi-controlled access highway of this type.

A new concept of highway construction has developed in the last few years. The limited access highways have been constructed in recognition of the fact that in cases where roads are required to carry high volumes of traffic, the traffic itself must be protected from interference and restrictions. If more liberal access conditions are allowed, or crossing traffic permitted at grade, the high volume flow cannot be obtained and the capacity of the highway is seriously curtailed. This new concept of highway construction has given the highway designers great difficulties in planning for the best traffic flow, both from a safety and high volume standpoint, and still allow reasonable access.

The Committee found that one very important fact to remember is that expenditures on road construction, expensive though they may be, are in large measure returned to the people of the Province by the industrial and commercial expansion, savings in time and accident damage which result directly because of greater availability for use, less congestion and greater speeds. To look at this another way it is equally accurate to say that to postpone construction of required roads actually represents a hidden cost to the community because of congestion, waste travel time, accident damage and the potential traffic which refuses to use the road. The roads of tomorrow must be planned to serve the needs of the Province, subject only to budgetary limitations, otherwise, there is the danger that regional and local planning will be shaped to fit the present road pattern rather than the road pattern shaped to accommodate proper and beneficial development. In other words, highway planning must be carried out in full co-operation with residential, industrial and commercial planning at the national, provincial, and local level.

The Committee's first approach to the question was to consider the feasibility of financing multi-lane controlled-access highways by the toll method. In keeping with its broadened terms of reference the Committee then considered the entire highway problem in the light of providing not only standard two-lane unrestricted access highways but also multi-lane, divided, limited access highways which might be provided as free ways out of provincial funds.

MOTOR VEHICLE OWNERSHIP — ONTARIO
(Persons Per Motor Vehicle)

Year	Population	Vehicle* Registration	Ownership Ratio
	(in '000)	(in '000)	
1913	2,639	23.7	111.35
1914	2,705	31.7	85.33
1915	2,724	42.3	64.40
1916	2,713	54.4	49.87
1917	2,724	83.8	32.51
1918	2,744	109.1	25.15
1919	2,789	139.3	20.02
1920	2,863	172.1	16.64
1921	2,934	201.5	14.56
1922	2,980	234.5	12.71
1923	3,013	274.4	10.98
1924	3,062	302.8	10.11
1925	3,103	338.4	9.17
1926	3,145	383.0	8.21
1927	3,187	430.3	7.41
1928	3,229	484.1	6.67
1929	3,271	536.7	6.09
1930	3,313	558.6	5.93
1931	3,432	558.1	6.15
1932	3,473	527.5	6.58
1933	3,512	516.0	6.81
1934	3,544	537.8	6.59
1935	3,575	559.6	6.39
1936	3,606	584.9	6.17
1937	3,637	619.3	5.87
1938	3,672	663.9	5.53
1939	3,708	677.8	5.47
1940	3,747	698.5	5.36
1941	3,788	733.3	5.17
1942	3,884	709.3	5.48
1943	3,915	685.2	5.71
1944	3,963	669.2	5.92
1945	4,000	657.0	6.09
1946	4,093	704.1	5.81
1947	4,176	787.5	5.30
1948	4,275	862.2	5.96
1949	4,378	956.3	4.58
1950	4,471	1,090.4	4.10
1951	4,598	1,191.6	3.86
1952	4,766	1,278.3	3.73
1953	4,897	1,392.8	3.52
1954	5,046	1,477.5	3.42
1955	5,183	1,601.7	3.86
1956	5,405 (actual)	1,692.4	3.10
Projection			
1960	5,820	2,078.6	2.8
1965	6,500	2,708.3	2.4
1970	7,280	3,466.7	2.1
1975	8,160	4,080.0	2.0
1980	8,920	4,460.0	2.0
1985	9,780	4,890.0	2.0

*Excluding motor cycles.

THE PRESENT HIGHWAY SITUATION

In general terms the importance of providing adequate roads and highways was outlined in the Foreword. Using the material available from the Highway Needs Study along with the information gained at first hand by direct investigation, the Committee came to certain conclusions regarding the best approach to the highway problem. Perhaps the most important fact concerning our highway needs is that there is at the present time a highway and bridge backlog of \$782,000,000 on the 5,022 miles of King's Highways and secondary roads, based on 1955 costs. This should not be interpreted to mean that the Department has been negligent in its construction of road facilities but rather that the demands of the motoring public increased at a much greater pace than the revenues derived from the users, and that wartime conditions caused the postponement of normal maintenance and expansion.

The greatly increased demands of the road users in this Province is a direct result of Ontario's healthy development of industry and commerce. The average Ontario citizen of today produces more, earns more in real wages, and works shorter hours, thus leaving him with more free time for use of the highway system. The pattern of living has changed in many respects, but most strikingly in regard to transportation and communication. Many people travel considerable distances to work by various modes of transportation, but the greatest percentage outside the city use road facilities. This is a personal choice determined after weighing many factors. Some people prefer the flexibility, speed and convenience of the motor vehicle rather than the cheaper public transit system. To date, people have been able to exercise their choice freely, except for the effect of road congestion. Some travellers choose times other than the peak hour of use, but for many who have a specific time table to meet, this choice is not available. This results in a tremendous flood of traffic in the morning hours and again in the late afternoon at the end of the work day.

The rural sections of the highway have traffic counts which rise each year by a minimum of at least 5 per cent. On many roads the average is closer to 10 per cent. The Department is constantly required to improve the rural highway, widen bridges, straighten curves, cut grades, widen shoulders and generally clear obstructions, but even with all this the increased traffic flow which is generated each year, particularly in the southern part of the Province, approaches the capacity of the road and in many cases exceeds it. As a result, the "Highway Needs Study" discovered that 3,800 miles of the existing highways are considered deficient. This represents 44 per cent of the total of 8,630 miles. At the same time, 417 of the 1,319 bridge structures on the present King's Highway system are considered deficient. (Please refer to chart P-15 for a statement of the deficiencies in regard to King's Highways and Secondary Roads).

These statistics are calculated on a basis of traffic volumes and other conditions which make the roads deficient for present traffic. New roads have economic and social effects which can be recognized, and therefore traffic counts alone cannot determine need. If it is indicated that new or improved road construction will create definite benefits to the area and the Province generally, then every attempt should be made to proceed. The Department has recognized this in its programme of development both in the southern part of the Province and in the north. One particular phase of this problem was examined when the Committee visited Atikokan and Fort Frances. A road connection between Fort Frances and Atikokan could never be justified on the basis of anticipated traffic volume alone, but there are other, greater, benefits to be derived from this construction which will be set out later in this report.

The Committee in its inquiry soon established that our tempo of construction is not sufficient to keep pace with mounting demands, and as a result we have fallen behind in providing roads and highways required. This is particularly true of the municipalities and it suggests that the Province should become more directly concerned with building connecting highway links through urban areas. In some locations the rural sections of our highways are at present adequate. Planning, of course, must take into consideration estimates of future demands in order to prepare the way for new construction by agreement as to location and purchase of right-of-way as far in advance as possible of the actual construction. Such planning should be several years in advance in order to permit those interested to make representations to the Department and for municipal authorities to agree on the location of future highway construction, which in turn would permit them to plan their municipal developments according to the availability of transportation facilities. This requires that the Department of Highways have sufficient engineers to permit them to concentrate on advanced planning. The present planning branch of the Department of Highways is working under considerable difficulty because of not sufficient personnel; however, the Committee wishes to compliment the present staff on their excellent work.

The problem in Ontario arises from the fact that there is a shortage of qualified personnel available. An improved salary structure would assist a great deal to attract engineers into this rather new and extremely important field. Perhaps a development programme in connection with Universities and

*PRESENT DEFICIENCIES ON KING'S HIGHWAYS

		% of Total
Deficient Surface Condition.....	2,805 miles	33%
Traffic Congestion.....	723 miles	8%
Horizontal Alignment (sharp curves, etc.)....	1,916 miles	22%
Insufficient Sight Distance.....	2,035 miles	24%
Deficient Shoulder Width.....	2,223 miles	26%
Steep Grades.....	1,615 miles	19%
Inadequate Surface.....	1,048 miles	12%
Bridge Structures.....	417 (total 1,319)	32%
Railroad Crossings.....	59 (total 460)	13%

Urban King's Highways Sections in Towns Under 5,000 Population

285 miles deficient or 27%

47 bridges deficient or 44% of the total of 109 bridges

Secondary Roads

Deficient Surface Condition and Width, 1,530 miles or 64% (total 2,400 miles).

Bridge Structures—368 deficient, or 98% (total 375).

*Source: "Highway Needs Study"—Department of Highways.

interested professional bodies would assure a greater number of qualified planning, design and traffic engineers for employment by the Department of Highways and municipal authorities. Mr. W. J. Fulton, in his appearance before the Committee, advised that California, which has an excellent planning system, has actually 3,500 engineers on their staff of the Department of Highways, while in Ontario we have about 287. For comparison the budget of the State of California is about three times the Ontario budget. It is obvious, therefore, that if we are to build highways in a business-like way, taking full advantage of good planning procedures, it is essential that the Department have a budget in keeping with their requirements. The Committee therefore gave careful consideration to the problem involved in financing an accelerated programme of highway construction and, as well, providing greater assistance to the municipalities. The Members feel that the movement of traffic in the Province can very well be considered as the life-blood of our Canadian economy. We believe that our recommendations in regard to Toll Roads and Highway Financing merit the careful attention of the Legislature of Ontario, and the people of this Province if our progress is to continue, and if we are to enjoy in our lifetime the benefits of pleasant and safe motoring.

One of the most difficult problems which developed in the studies conducted by the Committee is the matter of establishing priority of construction. In a programme of road construction there are limitations in the amount of work that can be done in any one year. This is caused by budgetary limitations, but perhaps of equal importance is the limitation of physical capacity of the contractors. The Committee feels that once an accelerated programme is announced and increased expenditures are assured, then the contracting capacity for actual construction will correspondingly increase subject only to competing demands by such tremendous projects as the St. Lawrence Seaway and the Ontario Hydro Development. It is necessary at the same time to reconcile the conflicting demands of the rural sections of the Province with the urban municipalities. Counties feel that the Province should pay a greater share of the construction and maintenance costs of county roads which serve traffic originating outside of the county and moving to a destination beyond its borders. Such a county road may not carry the necessary composition or volume of traffic to merit its inclusion in the King's Highway system, but nevertheless the request for special assistance beyond the 50 percent grant is worthy of careful consideration. Urban municipali-

ties find that the cost of construction of arterial routes serving as highway links, places a tremendous burden on real estate tax payers in spite of substantial Provincial participation.

The Highway Needs Study will provide a basis for planned future construction of roads, taking into consideration factors relating to the high classification and traffic demands. The Committee wishes to endorse the action of the Government in conducting such a study which will be of great value to the people of the Province in providing an orderly basis for road developments.

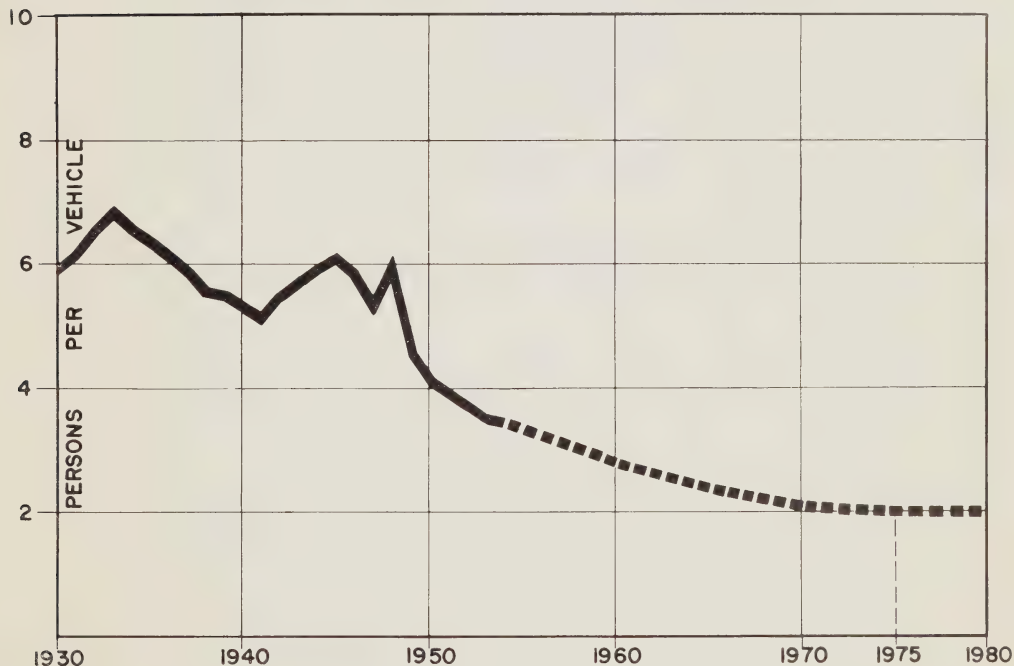
ONTARIO ROAD MILEAGE

	Concrete	Bituminous Pavement	Low Cost Bituminous Pavement	Gravel and Crushed Stone	Earth	TOTAL
King's Highways.....	586.74 mi.	4,745.57 mi.	1,458.06 mi.	1 732.02 mi.		8,522.39 mi. ¹
Secondary Roads.....			326.76 "	2,068.15 "		2,394.91 " ²
County Roads.....	195.69 "	756.24 "	2,303.01 "	6,081.65 "	12.72 mi.	9,349.31 "
Metropolitan Roads.....	8.49 "	224.20 "	6.47 "	38.88 "	4.76 "	282.80 "
Organized Township Roads.....	73.67 "	426.12 "	580.55 "	39,392.74 "	8,977.79 "	49,450.87 "
Unorganized Township Roads...				3,576.72 "	1,258.98 "	4,835.70 "
City, Town and Village Streets.	564.29 "	1,974.59 "	1,183.53 "	3,101.14 "	611.06 "	7,434.61 "
	1,515.62 mi.	8,126.72 mi.	5,858.38 mi.	55,991.30 mi.	10,865.31 mi.	82,270.59 mi.

¹ Amended total King's Highways.....8,695 miles, as of December, 1956. Detail not available.

² Amended total Secondary Roads.....2,362 miles, as of December, 1956. Detail not available.

ONTARIO MOTOR VEHICLE OWNERSHIP



TOLL ROADS

The Committee in its interim report to the Legislature, presented on March 21, 1956, outlined in a general way its findings concerning Toll Roads. Since that time the Committee has considered the application in Ontario of the principles and policies underlying Toll Roads. In the light of further investigations and discussions the Committee is now in a position to make definite recommendations of the toll principle as it applies to Ontario. The general observations and conclusions of the Committee's interim report are still considered to be applicable; in fact our further studies have confirmed the Committee's views held at that time.

The Committee therefore wishes to repeat the five general observations as set out in the previous report and to underline our finding that:

"The importance of any one of these symptoms is sufficient to demand a new approach over previous policies concerning the financing of highway construction."

1. The Government of the jurisdiction did not feel that it was in the public interest to increase motor vehicle taxation sufficiently to obtain the necessary revenue to build urgently required controlled-access expressways or high cost bridge facilities.

2. Out-of-state traffic would constitute a high percentage of the motor vehicles which would use the highway or bridge to be constructed. This is in most cases caused by motor vehicle traffic passing from one major centre to another and not originating or terminating in the state responsible for such road construction. In this case, out-of-state vehicles could travel over the roads and highways without contributing any tax revenue for the construction and maintenance of roads.

3. A great backlog of highway construction remained, even after motor vehicle revenues were utilized for construction and maintenance of the highway system. This backlog was usually revealed by investigation conducted to discover the inadequacies of highways, and predictions on future highway requirements. Highway demands continue to increase to such a degree that construction could not keep pace without resort to some new method of financing which would permit an accelerated highway programme.

4. County and town demands for increased road construction to maintain and improve transportation arteries have precluded concentrated expressway building programmes. This means in effect that highway revenues are not great enough to provide sufficient sums for significant divided controlled-access construction, and for subsidization of rural and urban service roads at the same time.

5. In a few jurisdictions there is evidence that highway revenues were in part diverted to other state programmes considered more deserving. In the main, such expenditures were directed to education and welfare and not used to maintain an adequate highway system.

From the information available to the Committee, Ontario has avoided this situation; in fact, expenditures have far outstripped revenue. An analysis of Ontario's highway expenditures and motor vehicle revenues show that the revenue over the years has been inadequate to meet highway expenditures, including interest charges, in every year except 1933 and 1937.

The following are the conditions which led to the establishment of Toll Road in the United States:

1. There is no inherent engineering or traffic control advantage in toll expressways over free roads such as No. 400, built out of tax revenue and provincial credit.

2. Toll financing is an expedient to enable the state to build high cost expressways and bridge projects quickly on a user-pay system, when revenues are below expenditures.

The Committee noted that in the United States, state and municipal bonds are federal tax exempt. In this way the federal government gives considerable assistance to the two lower levels of government in borrowing necessary funds at a low interest rate. This exemption applies to state toll authority bonds as well and permits the marketing of these bonds at approximately a 1% lower interest rate.

3. The toll method of financing permits the construction of a complete system early and thereby increases the economic effect of a major traffic artery in the jurisdiction, actually encouraging industry

and providing a stimulus to the economy without increasing taxes on the general citizenry. The direct and indirect economic benefits may, in fact, offset much of the expense of construction of the toll facility within a very short time. The construction of the expressway benefits the entire community as well as the special group which makes direct use of the road. Savings in time of travel, vehicle wear, and accident damage are startling when calculated on a money value basis for each user.

4. Where the toll method of financing is instituted, such roads should be planned and constructed to form an integrated part of the entire highway network. Toll projects should be designed to ensure that their use will produce the maximum benefit for all citizens of the jurisdiction. This requires that toll facilities be under Government (Provincial) control, and administered through a separate Provincial Board reporting to the Minister of Highways. It is the proper responsibility of the Government to plan the construction of highways and assist in the construction of improved municipal roads.

5. The ever-changing aspects of the motor vehicle tax system must be studied and revised whenever circumstances merit. New fuels and more efficient vehicles able to operate with greater loads can complicate a tax system based on gasoline gallonage. In fact, the transportation field is a dynamic one, with constant technological improvements and developments. The taxation system and the highway construction programme should keep pace with new developments and not attempt to impede progress by unnecessary restrictions. These restrictions are in part caused by insufficient amounts of money available to the construction engineer to build roads to high enough standards to accommodate all vehicles regardless of weight. Weight loads which can be moved economically by motor transport have sharply increased in the last few years. Secondary roads, because of their lighter construction, suffer most from heavy transportation movements. This requires a new approach in the classification of roads and streets.

6. The increase of motor vehicle ownership and mileage driven over the last few years has been so dramatic that in most cases the day a new facility is opened it is often at designated capacity. This means the traffic engineers find great difficulty in keeping pace with transportation demands and still keep their budgets within reasonable proportions. Predictions of future traffic demands estimate that this trend will continue for some time and that a levelling off is improbable. At our present rate of construction, particularly in urban areas, the inadequacies of our road system will become more critical and perhaps have an adverse effect on our industrial and commercial potential.

7. In the main, the construction of toll facilities demands a greater expenditure than the cost of corresponding highways built out of vehicle tax revenue. There are offsetting factors which may effect savings, but the cost of a toll project is higher overall. These offsetting factors come about because of earlier and more complete planning.

Toll roads result in higher costs through requiring toll booths, more elaborate cloverleaf construction (except where the toll barrier system is used), more administrative personnel to man the booths and operate the facility, special policing costs, higher bond interest rates (where there is no provincial guarantee).

8. An analysis of highway expenditures and revenues shows that the present system of road taxation is not producing sufficient revenue to provide required roads. If the province is to continue its assistance to municipalities through grants, and at the same time meet demands for additional highways, rural and development roads, then new sources of revenue are required.

9. A complete, impartial feasibility report by traffic engineers is required for each project before the traffic demands can be determined. This report can be used as a basis for study of the economic and social benefits which should accrue to the province, and a calculation may then be made of the amount of government participation in the original capital cost which is thereby indicated. A toll project need not be entirely self-supporting, if it would effect advantages to the general public.

10. The Federal Government should share a part of the cost of construction and maintenance of the provincial highway network. The provinces are in the same position as state jurisdictions in finding it increasingly difficult financially to keep pace with even the most critical demands and must, of necessity, turn for assistance to the central government, which, in Canada, occupies a privileged taxation position.

There are three facts which lead to this conclusion:

1. A complete and adequate highway network is as essential as railways or waterways in the general economy of the nation.

2. National defence in peacetime, as well as in times of emergency, demands an adequate, high standard road network. Our military forces depend on mobility for effectiveness. This is especially true in a large country such as Canada, with a small and scattered population.
3. The Federal Government receives substantial revenues from the motor vehicle industry, which are not returned to road construction, the life blood of the industry.

The Members of the Committee wish to reaffirm the six recommendations contained in the 1956 report. These were as follows:

1. That the Legislature accept the principle of a toll method as a practical system of financing the construction and maintenance of multi-lane controlled-access highways and urban expressways and special high cost structures, such as bridges, causeways and tunnels.
2. That the feasibility of each project be considered through an impartial study by experts of detailed data on actual and predicted traffic volumes, and construction costs.
A calculation should also be made of the contribution to the economic development of the province generally, and the social advantages to all our citizens.
3. That consideration be given to the basic contribution of each project to the Province generally, and that the possibility of a portion only, of the capital cost of any project being financed and amortized through the imposition of a toll, be considered.
4. That any facility which is subject to a toll charge, shall become free when the payment of the facility has been completed, including the government contribution.
5. That no consideration be given to the construction, operation and maintenance of toll roads in the Province by private companies.
6. That a Commission or Board be established as the authority to conduct the necessary investigation outlined above, and to administer any toll facilities established in the Province, such Commission or Board to report to the Minister of Highways.

TOLL ROADS IN UNITED STATES

The Committee carefully investigated the application of the above recommendations to specific projects in Ontario. With the assistance of representatives of the Department of Highways who provided engineering data and the representations made by interested citizens at meetings held in Ontario, the Committee was able to come to certain definite conclusions. Unfortunately there were some emotional appeals made to the Committee which tended to cloud the actual situation in regard to Toll Roads in the United States. One such statement was to the effect that "the death knell has been tolled for toll highway construction generally in the United States." This is quite true but it is not for the reason implied in the statement which was that Toll Roads in the first place were improper and discovered to be economic failures. The reason that American jurisdictions are not looking to Toll Roads now to finance controlled access highway construction is three-fold:

1. The Federal Government has adopted a programme which will pay 90 percent of all costs of construction or reconstruction of a system of roads called "National System of Interstate Highways" which comprises about 45,000 miles of main highways in the United States. Had this Federal plan been adopted earlier many of the States which turned to toll financing would have willingly accepted such a programme and constructed these facilities as freeways.
2. The cost of borrowing money has increased to such an extent that 4 percent bonds, completely tax free, are hard to sell, whereas some of the original toll road bonds were marketed at a much lower interest rate. This of course depresses their resale value on the bond market. The New Jersey Turnpike Authority marketed bonds at interest rates varying from 2.80 percent to 3.38 percent. The Ohio Turnpike bond issue carried a coupon rate of $3\frac{1}{4}$ percent. Future toll road bond issues would of necessity require a much higher interest rate on the present market.

3. The most heavily travelled sections of the interstate road network that would support the toll road method of financing are in the main already built. The New Jersey Turnpike, the Pennsylvania Turnpike and the New York Thruway are the best examples of this type of construction. Their financial statements bear out the fact that they are doing very well indeed. The Ohio Turnpike reports that at the end of December, 1956, a total income for the year of \$15,350,965.95 with a net income before debt service of \$11,239,018.71. This Toll Road has been the subject matter of considerable newspaper comment and the officers of the Authority are quite frank in admitting that immediately after the opening of the Turnpike, revenues were not up to expectations, for certain very definite reasons, particularly the objections of the transport operators to the toll charges which they considered to be too high.

With the advent of Federal aid in the United States on a scale which encourages the construction of major interstate connecting highways, the situation which led to the construction of Toll Roads in the first place is largely remedied. That condition was outlined in the Committee's conclusion that toll financing is "an expedient for the state to build high cost expressways when revenues are below expenditures." Such an expedient, which is considered by many to be a last resort, is no longer necessary. This is recognized by the Turnpike Commission's officials. For example, the Chairman of the Ohio Turnpike Commission, Mr. James W. Shocknessy, on December 31, 1956, in a report showing a profit of \$600,000 for 1956 operations, stated that "the toll system envisioned in Ohio is not likely to be realized, but instead, the people of Ohio are likely to have something better than a toll road system in a system of freeways under the aegis of a federal highway programme, which will accomplish the same transportation objectives as the toll road system envisioned, without the almost crushing burden of interest and financing charges which a system of highways now constructed from the proceeds of revenue bonds would entail."

The Province of Ontario has been given no indication that the Federal Government intends to increase its financial participation in the construction of Inter-Provincial and Inter-Regional highways. Merely to debate the question of how such highways costs should be shared would leave the user without adequate facilities, and therefore Ontario must face the situation squarely, and with the highway needs determined, proceed to raise the required revenue to meet those objectives. Mr. Richard M. Zettel, in a paper delivered at Jefferson City, Missouri, on March 30, 1956, which was prior to the decision by Congress to adopt a Federal Aid Programme, stated that "A continuation of the current indecision can only retard highway progress all over the nation—that what is needed more than anything else right now is a clear declaration of national policy. Early enactment of current legislation is, of course, one possibility, but if this programme is not to be included then by one means or another the states should be given notice so that they can go forward in the development of their own programmes."

The Committee carefully examined the Ontario situation in the light of possible financing by the toll method. It was of advantage to the Committee to consider highway financing by the toll method at the same time as financing out of general highway user charges in order to determine which approach is best in any particular situation and therefore the Committee's recommendations in regard to toll facilities should be considered in the light of the recommendations of the Committee in highway financing generally.

RECOMMENDATIONS

The Members of the Committee wish to make the following recommendations:

1. That there be no consideration given to placing toll charges on multi-lane highways that have been constructed or that are partially constructed even though they may be semi-controlled-access highways of high standard. It is the Committee's recommendation that Highways 400, 401 and the Queen Elizabeth Way be operated by the Province as freeways and that the construction of Highway 401 be continued and given high priority.

As outlined above, the Committee in its interim report concluded that toll financing was an expedient and in its recommendations at that time, it was the decision of the Committee that the toll method is a practical system of financing the construction and maintenance of multi-lane controlled-access highways. On this basis, therefore, existing multi-lane semi-controlled-access highways such as the Queen Elizabeth are ruled out since such roads have already been constructed and paid for out of Provincial funds. If these highways were made subject to a toll charge that would merely be another form of taxation, over and above the taxes already levied on the highway users of the Province. Sections of Highway 401 have been completed and would be subject to the same reasoning.

In addition, Highway 401, although it has been engineered to a high standard and serves the purpose of the Province very well indeed, is not planned to permit conversion to a toll road. Toll road construction requires complete control of access, so that in effect the highway is sealed off from all, except for those who are willing to pay a charge to enter well separated clover leafs. The clover leaf construction itself is much more elaborate in order to channel traffic through one point to minimize toll collection costs. The alternative system of barriers to collect tolls has two great draw-backs. One is that all motorists would not contribute equally to the use of the highway, as some would avoid the barriers and travel on the free sections. The second great disadvantage of the barrier system is that it interrupts the traffic flow. Barriers would be required at frequent intervals, and this is contrary to the intent of the highway in the first place. The great advantage of controlled-access highways is that the traffic flow is smooth and uninterrupted, and as a consequence, a much higher volume can be carried than on ordinary highways.

Highways such as the proposed number 401 from Windsor to the Quebec border are of tremendous importance to the commercial and industrial life of the Province as well as to the convenience of highway travellers generally. The Committee, therefore, strongly urges that this highway be given a high priority and completed as quickly as possible. Traffic demands make it essential that this highway be constructed from London to the Quebec border in as short a time as possible. In order to speed up construction of this highway, the planning branch of the Department might continue the policy of flexibility where indicated traffic volumes are not high.

It is the Committee's opinion that the benefits which will accrue to the Province generally in a very short time will more than offset the cost of construction of this highway. It is in the interest of the Province, and indeed of Canada, to build this important link in the highway system, which will in fact provide a freeway of high standard from Windsor to the Quebec border. In lightly travelled sections of 401 the Department might consider construction of two lanes of the highway, permitting two-way traffic, but obtaining sufficient land and planning the design of structures so that the construction of the second half can be proceeded with when considered necessary.

In eastern Ontario it is evident from the information provided by our traffic engineers that construction of all lanes at the present time is not completely necessary, and if one-half of the highway were opened for traffic and the Department concentrated on the completing of the highway through to London, then the almost intolerable conditions which prevail on Highway 2 would be relieved. Representations from people in the area tended to confirm this. It is important that the construction of 401 be continued to connect up with existing highways so that when the paving is complete the road is available for use. The great value of the entire highway will not be realized until the various sections are connected. It is anticipated that the traffic volumes which use the road when that condition is met will be much higher than any current estimates.

It is recognized that the accelerated construction of highway 401 will place a heavy financial burden on the Province, and it is obvious that the Province will need additional revenue sources to meet such increased demands. Highway 401 cannot be constructed at the expense of neglecting the existing backlog in the other sections of the Province. Therefore, the Department of Highways should continue its balanced programme of construction with a broad general acceleration. The requirements for additional

highway facilities in the next ten years will place a tremendous burden on the Province. This situation is explored in greater detail in the section relating to highway finance.

Whenever a highway such as 401 is constructed out of revenue, it is difficult to justify the closing of points of access to such a degree, as to make it almost impossible for residents who live near the highway to use the road. Conversely, free and unrestricted access destroys the value of the road, which may cost an estimate of an average of \$600,000 a mile to build, at present day costs. Unrestricted access perverts the intention of construction of the highway in the first place and destroys much of its value for through traffic. Such a condition is evident in the eastern section of the multi-lane highway from Toronto where urban development has in essence reduced this road to a city street.

2. The Committee recommends that the Department of Highways obtain a feasibility report from competent independent engineers when future highway demands indicate the necessity of a controlled access four-lane highway.

Such a study would be indicated when preliminary traffic counts show a potential of at least 5,000 cars a day and an origin destination survey indicates that there would be sufficient traffic generated from major centres of population to warrant a new facility with a strict control of access. This usually occurs when urban centres of population and industry are connected by inadequate standard highways. It is the Committee's opinion that Highway 401 over its entire length would not meet the necessary conditions for construction as a toll facility. The reasons are contained in Recommendation No. 1.

Highways 400 and 401 cannot be considered strictly controlled-access highways since interchanges are at frequent intervals and some cross-overs are at grade level. This means that there is considerable short trip traffic of a local nature, and that the road is in effect serving two purposes:—

- (a) providing a facility for fast moving through-traffic with a minimum of interruption by intersecting and short trip traffic;
- (b) enabling local traffic to travel short distances with greater speed and safety than on parallel two-lane highways which are more congested and constructed to a lower standard.

There are difficulties in such traffic composition since local on-off traffic conflicts with through traffic, and when traffic volumes rise the result is that the flow becomes more and more interrupted until eventually the highway serves local traffic better than it does through traffic. Highway 401, in the Toronto area, which was considered to be a Toronto by-pass, is, in fact, providing local traffic a valuable route for urban movements. Traffic entering such a highway at one intersection and leaving by the next is in conflict with the aims of the original planners.

In order to protect the value of such a highway the Department should continue to control ribbon development. The Committee is in full agreement with the control being exercised on Highway 400 at the present time, providing service areas at required intervals and not allowing unrestricted commercial development to take place. The highway belongs to the people of the province and it is the highway users' money which paid for its construction and created land values in the immediate area. The private operator should be permitted to take advantage of the demand for service only under the control of the Department, with a return by way of rentals, etc., to the public treasury.

The Committee recommends that the Department continue to study standards for service establishments located on departmental property along controlled and semi-controlled access highways, charging such establishments as service stations, restaurants, motels, etc., for land rentals, service, etc. In this way the Province, on behalf of the taxpayer, recovers some of the financial benefits that accrue to businesses which locate along such a high cost highway facility.

3. As a specific project the Committee recommends an early study by independent engineers of a new strictly controlled access highway between Toronto and Hamilton, to determine its feasibility as a toll facility.

Traffic engineers who appeared before the Committee stressed the importance of additional traffic lanes between the two cities and recommended that another highway will be needed shortly even taking into consideration the completion of Highway 401. The time table predicted for this highway is within the next 5 to 6 years. In fact, a conservative estimate is that in 20 years' time between Toronto and Hamilton, a minimum of 24 lanes will be required. This represents an increase to over three times the present capacity. The Committee believes that an independent feasibility study will show that inter-urban traffic requires a strictly controlled access highway between these two important centres of popula-

tion and industry. We, therefore, recommend the study of a divided control access highway with provision for at least six and perhaps eight lanes of traffic and intersections spaced as far apart as possible to provide for the fast moving traffic, as a toll road.

The fact that this highway requires a strict control of access to be of value to traffic moving directly from one metropolitan centre to another means, that it will not be available to residents who live near the road. In other words for through-traffic we would be providing an expensive express highway which will provide premium benefits to the users but at the same time such advantages are denied to other motorists who do not live in concentrated centres of population for which access points would be provided. It would seem reasonable therefore, that the cost of this highway be amortized through reasonable tolls paid directly by the users. Conditions are ideal for such a highway since alternative free routes are available, one of which is the Queen Elizabeth Way, a highway which the department has greatly improved for traffic. If toll charges are not levied on this highway then such a strict control of access cannot easily be justified since other tax paying motorists might readily claim that they are being denied access to a road to which they contribute their gasoline and other taxes.

At the request of the Committee, engineers in the Department of Highways produced a map indicating the possible location of such a highway to the best advantage of Toronto-Hamilton traffic. The Committee is of the opinion that such a highway, if it should be built as a Toll Road, should connect with free expressway arteries reaching right into the centre of the cities. Such expressway construction would be of considerable benefit to city and commuter traffic. These expressway links should be constructed as free urban expressways and should connect not only the toll facility but provide access to alternative King's Highways. For example a clover leaf could be provided at the borders of Metropolitan Toronto to connect with Highways 27 and 5. Similarly in Hamilton access would be given to the proposed Chedoke expressway. Such urban expressway construction in order to move traffic quickly and safely requires that intersecting traffic be grade separated by either a cross-over or an under-pass. This avoids the necessity of interfering with the traffic flow by stops for traffic lights etc., and such expressway construction would relieve the city of a considerable amount of traffic congestion even in the built-up sections. Such urban expressway links would be expensive to build. It is recommended therefore, that the Province consider construction of such special highway links out of provincial revenue with the city purchasing the right-of-way as its share of the cost.

4. The Committee recommends if the feasibility of the Burlington Skyway is established by means of an independent engineering study that the cost of this bridge and its approaches be amortized and retired by means of toll charges. This project will cost in excess of \$17,000,000 and we believe that it would be in the interest of motorists of Ontario to amortize its cost by the toll principle and spend the money thus saved on the general highway needs of the Province. The Burlington Skyway meets the conditions required for the application of the toll principle in this respect since there is an alternative bridge available.

The Committee is not satisfied that it would be proper to charge the total construction cost of the Burlington Skyway against the motor vehicle revenues of the Province. This would require that Ontario taxpayers in all parts of the Province would have to pay for a high cost structure over a federally maintained waterway, which severs road connections, to accommodate traffic which in part originates from outside of the province. In the summer months traffic originating outside of Ontario composes a large part of the total traffic flow. In such a period 15 per cent of the traffic, or 3,000 vehicles a day, are from outside the Province. Ontario has a tremendous backlog of highway needs at the present time which must be satisfied and an expenditure out of revenue to construct this bridge would take an undue share of the annual highway construction budget. If after complete independent studies it is decided to levy toll charges on this bridge then the revenue thus collected should be applied against the cost of the bridge and once the total cost is met the bridge should become part of the free highway system. Such a recommendation is in keeping with the representations made to the Committee by the City of Hamilton, the County of Wentworth, and the Suburban Roads Commission on January 10, 1956, and again on September 27, 1956.

5. The Committee recommends that the Department of Highways obtain an independent engineering study on the feasibility of the proposed Welland Canal Bridge as a toll structure. The Members believe that the best location for this bridge would be at the junction of the Queen Elizabeth Way and No. 8 Highway.

The reason toll charges are considered on this structure is that once again this is not the sole responsibility of the provincial motor vehicle taxpayers. This will be an extremely expensive structure over a canal which is under Federal jurisdiction and it will be used by many out-of-province vehicles. To finance the construction of this bridge out of provincial funds would absorb an undue percentage of the budget in any one construction year.

The situation in regard to the proposed Welland Canal bridge or tunnel, whichever is determined to be the best type of structure, in the immediate vicinity of the City of Welland, is not considered by the Committee to be comparable to the bridge on the Queen Elizabeth Way. Through-traffic will make limited use of this structure since this represents a local project necessitated by the operation of the Welland Canal. At the present time the traffic of the City of Welland is greatly inconvenienced by the operation of ships in the canal and with the increase of shipping traffic envisaged by the development of the St. Lawrence Waterway, the situation will become worse. The question therefore arises as to whether the construction of this bridge or tunnel is the responsibility of the City, the Province or of the Federal Government, since the conditions making it necessary are caused by shipping traffic on a federal waterway. It is understood that toll charges are to be levied on the users of the canal and perhaps some of this revenue could be rightfully used to assist the City of Welland in its difficulties. The Committee therefore feels that the Federal Government has an obligation to take an interest in the serious traffic problem of the City of Welland and to assist in its correction.

6. The Committee recommends that the causeway at Fort Frances and the road linking Fort Frances to Atikokan be given priority in the Ontario highway construction programme.

This problem was discussed with residents of the lakehead cities of Port Arthur and Fort William; Atikokan and Fort Frances, and the representations were unanimous that this road would be extremely valuable to the development of the north west section of the province. It is obvious that traffic volume alone could not justify the construction of the causeway. However, such a structure is justified on the importance of linking the agricultural district of Fort Frances with the mining and perhaps eventually industrial district of Atikokan. In addition, there is a great advantage of through-connection from Fort Frances to the Lakehead, which will encourage domestic and American tourist traffic. Since out-of-province users may form a considerable percentage of those who use the bridge, the Committee considered the advisability of amortizing the cost of the structure through toll charges. The causeway will cost approximately \$3,500,000. It is obvious that the traffic flow will never be sufficient to permit the amortization of the cost of this structure on the basis of toll charges, and perhaps more important than that is the fact that there is in reality no alternative parallel through route which is one of the normal prerequisites of a toll facility.

The Committee feels that the causeway and the Atikokan road will mean much to the development of Fort Frances and will open up an area rich in natural resources, both mineral and forest, and thereby stimulate mining investigation in an area which is otherwise almost inaccessible. Perhaps some new discoveries as valuable as the Steep Rock Iron Mines will result since there is evidence that the entire area has a rich potential in ore bodies. It should be pointed out that the residents of the area expressed a willingness to pay toll charges, if by this means the construction of the causeway would be accelerated; however, it is the feeling of the Committee that such construction is to the benefit of the Province generally and should be considered as a valuable development project.

7. The Committee recommends that all Ontario registered licensed passenger vehicles be given the opportunity to purchase an annual permit which will permit the use of a toll facility in the Province without further charge. If the Burlington Skyway were tolled, a resident in Hamilton could purchase an annual permit for a reasonable sum and thereby use the Skyway on a toll basis without further charges; his actual cost per trip would therefore be quite small.

At the same time, out-of-Province vehicles which might otherwise contribute nothing to the road system of the Province would quite willingly pay the toll charge for the benefit of a premium structure. This is not a new approach, since in New York State passenger vehicles licensed in that State can purchase an annual permit for \$20.00 which permits use of the New York Thruway at any time and for any distance without further charge.

CERTAIN SPECIFIC TRAFFIC DATA

On page 30 is a plan showing the traffic volumes that could have been expected if the entire proposed Freeway System were completed and open to Traffic in 1955. This plan will show the relative importance of the various sections of this system.

In the specific area between Toronto and Niagara the existing road network is carrying the following volumes (estimated 1956 *A.A.D.T.).

LOCATION	Hwy. No. 2	Q.E.W.	Hwy. No. 5	Total
Humber River.	29,300	40,200	27,000	96,500
Etoibiroke Creek.	14,500	40,500	12,700	67,700
East of Oakville (Trifaigar).	6,700	26,300	6,000	39,000
West of Oakville.	5,300	18,000	5,900	29,200
East of Hwy. No. 25 (Nelson).	4,200	17,300	7,200	28,700
West of Hwy. No. 25.	5,500	19,000	7,500	32,000

	Hwy. No. 8	Q.E.W.	Total
East of Stoney Creek.	8,400	11,500	19,900
West of St. Catharines.	2,600	15,300	17,900
East of St. Catharines.	2,840	11,900	14,740
North of Niagara Falls.	2,410	10,600	13,010
North of Fort Erie.		4,000	4,000

From the data collected in the Origin-Destination Survey around Metropolitan Toronto the following trip desires were found:

	1955 *A.A.D.T.'s	Cumulative
Toronto to Hamilton and Suburbs.	8,216	15,442
Toronto to Grimsby and Beamsville.	563	7,226
Toronto to St. Catharines.	1,124	6,663
Toronto to Welland and Port Colborne.	419	5,539
Toronto to Niagara Falls.	2,613	5,120
Toronto to Fort Erie.	2,507	2,507

With respect to the Welland Canal Bridge in the vicinity of St. Catharines: the 1956 A.A.D.T. over the existing Bridge is approximately 15,000. On peak days during the summer this count would be as much as 33,000. This traffic is currently being forced over a three lane bridge which is very frequently opened to allow canal traffic to move. The bridge would definitely be labelled as an "intolerable section."

The success or failure of any toll facility would depend entirely on its terminal facilities. For example unless the suggested Toronto-Hamilton Toll road were to provide ready accessibility to the downtown areas of the two Metropolitan areas it is exceedingly doubtful if there would be any major usage of the highway. Most delay and congestion is occasioned in the urban areas and it is delay and congestion that the motorist will pay to avoid. The eastern end of the suggested route would depend entirely on the final plans of Metropolitan Toronto. The current thinking calls for the development of the Kitchview Subroad into a major entrance into the city and is the reason for the suggested highway being shown as entering Toronto at a point which otherwise would appear to be too far to the north. (See map page 28.)

*Average Annual Daily Traffic

Similarly, at the Hamilton end, the highway would have to have direct access both to the Burlington Road Skyway and to the city street proposed Chedoke Expressway. The Chedoke Expressway and an east-west expressway in Toronto would be essential to a successful Toll Road from Toronto to Hamilton.

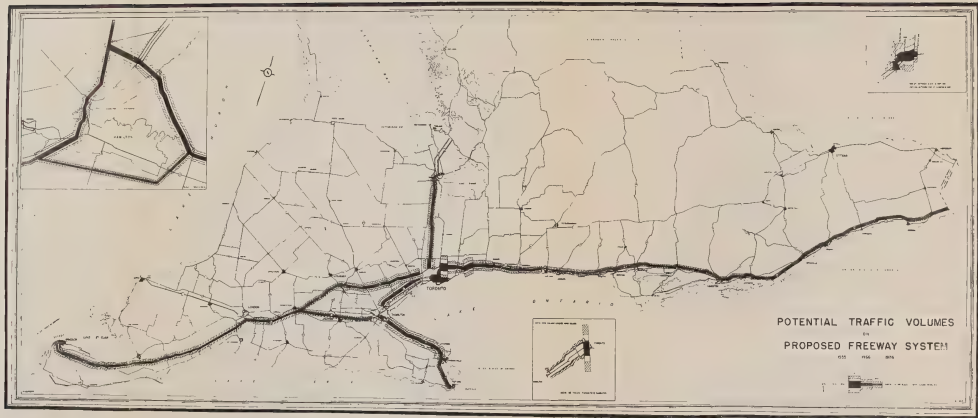
An interesting and important aspect of highway planning has to do with the carrying capacities of different roadway cross sections. Assuming that all conditions are equal except for the number of lanes, the following capacities can be expected.

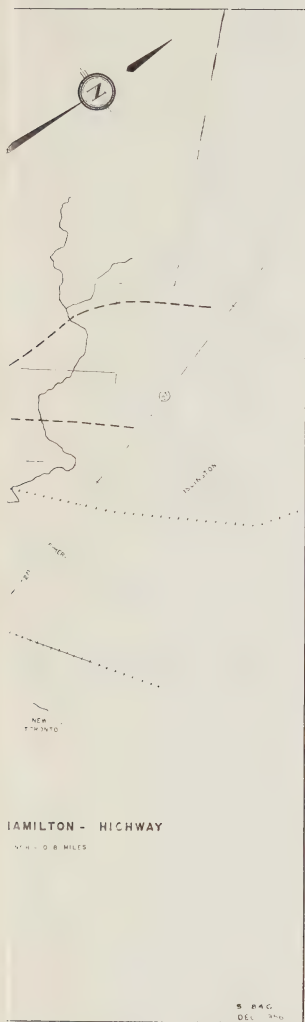
NUMBER OF LANES	PRACTICAL CAPACITY				
	Lane 1	Lane 2	Lane 3	Lane 4	Total
2 lanes (two-way traffic)	—	—	—	—	900
2 lanes (one-way traffic)	800	1,100	—	—	1,900
3 lanes (one-way traffic)	800	1,100	1,800	—	3,700
4 lanes (one-way traffic)	800	1,100	1,800	1,800	5,500

If we assume that two-thirds of the traffic during the peak hour is in the direction of the heaviest flow, then the practical capacities of the various types of highway are approximately as follows:

Type	Hourly Capacity	Ratio to 2 lane two-way
2 lanes—two-way	900	—
4 lanes—divided	2,850	3.2
6 lanes—divided	5,550	6.2
8 lanes—divided	8,250	9.2







HIGHWAY FINANCING

In order to determine the adequacy of our present revenues the Committee carefully studied the material provided by the Highway Needs Study, Treasury information on our revenues and expenditures and obtained information directly on the known highway requirements of the Province.

PRESENT TAX REVENUE

Before the coming of the motor vehicle, roads were almost entirely local in nature and use, and were primarily a service to the land which had access to them and which paid for them entirely. More and more, however, this use has changed. Improved roads and increased numbers of vehicles have meant that the roads are in many cases a service primarily to the vehicles which use them, and which should therefore pay a share in their cost.

The introduction of the gasoline gallonage tax in 1925 provided the means for collecting tax payments which would increase with increased highway use, in effect metering highway use. This system worked very well as long as all vehicles were of approximately the same size and used the same fuel, since the tax paid varied directly with use of the roads.

As motor vehicles' use of roads has increased, the standard of road construction has been raised, and the motor vehicles share in the cost of roads has increased. The concept has grown that the motor vehicles proportion of cost responsibility varies with the type of road built, being highest with through highways and lowest with what might be called local roads and streets. This raises the problem of division of cost responsibility between real property (and/or general tax revenue) and the motor vehicles for the maintenance and construction of many different types of roads. The other basic problem, is the division of cost responsibility between the different classes of motor vehicles.

The growth of highway traffic of all types and particularly the rapid increase in gross weight and size of commercial vehicles has led to extensive investigations in many places with a view to apportioning fairly the cost of highway construction and maintenance amongst the several types or classes of highway users. (See chart page 54).

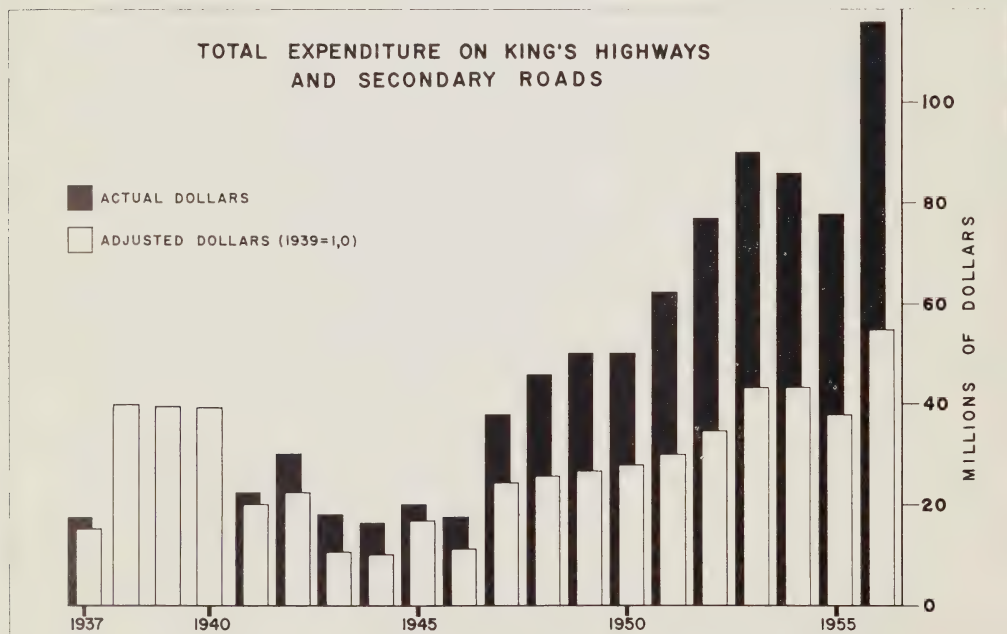
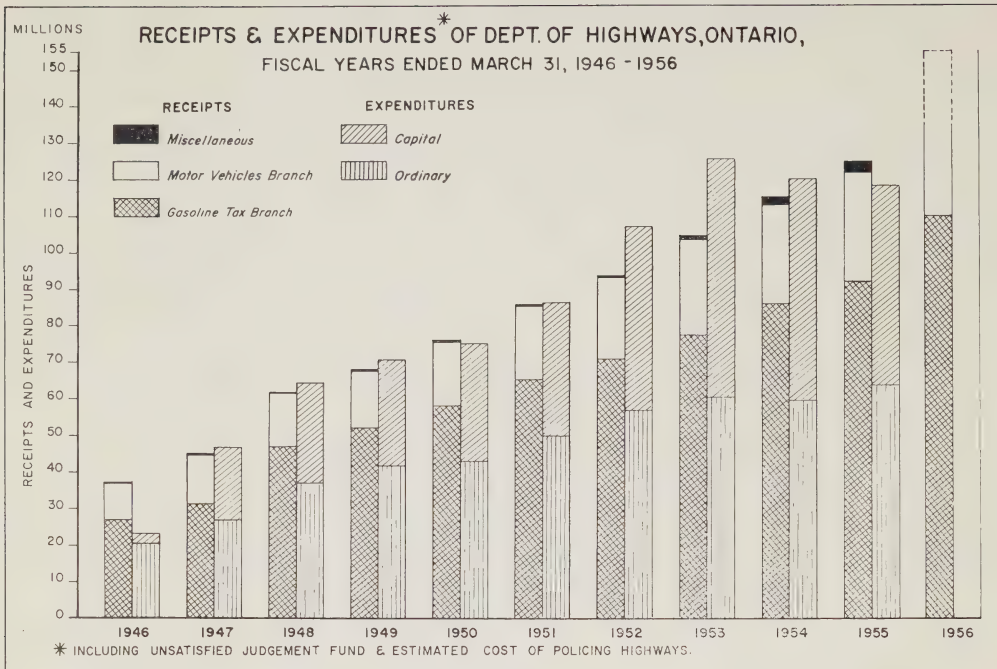
FUEL TAX AS A SOURCE OF REVENUE

The findings of these various studies are not in complete agreement. However, there is broad acceptance of certain important findings and perhaps the most important is that the gasoline gallonage tax breaks down as far as equity is concerned when vehicles approach the gross weight of 18,000 lbs.

There is room for argument on the equity of any particular set conditions, but it is obvious to the Committee that an increase in the gasoline tax falls most heavily on the light motor vehicles. A simple increase in the rate per gallon of gas tax would mean that approximately 90% of the burden would be paid by the passenger cars and light trucks in relation to use and number of registrations. A fuel tax per gallon would be the ideal system of taxation if all vehicles weighed the same amount and travelled the same distance per gallon. It is obvious, however, that that is not the case. The heavier vehicles use more fuel per vehicle mile of travel than do lighter vehicles, but use less fuel per unit of weight hauled. This is easily understood when one considers that a passenger car weighing approximately two tons travels approximately 18 miles per gallon and thereby obtains 36 ton miles of operation for 11 cents tax. A truck weighing 46,000 lbs, or 23 tons, obtains 5 miles per gallon of gasoline or 115 ton miles of operation for 11 cents. This becomes even more important when it is realized that a truck combination weighing 68,000 lbs., or 34 tons, travels 4 miles per gallon and therefore obtains 136 ton miles of operation for 11 cents. The passenger car obtains approximately one-quarter of the ton miles of use compared to the 34 ton vehicle for the same amount of gallonage tax.

COST THEORIES

The incremental cost theory attributes to basic users certain costs which must be built into a road to accommodate the vehicles which use it. The approach is based on the idea that a vehicle using a highway should pay its share of the cost of those components of the highway which it needs and should not share the cost of those components which represent requirements beyond its needs. The findings of the incremental study in Ohio reported that the required thickness of pavement for different weight classes of vehicles were for a typical two axle truck weighing 6,000 lbs. loaded, a pavement of 4 inches thick and a similar type vehicle weighing 13,000 lbs., a 7 inch pavement. From this approach all vehicles should share the cost of the first four inches, the heavier vehicle would pay its share of the cost of the first 4 inches and in company with other heavier weight groups share the cost of the extra 3 inches. The



heavier vehicles create increased maintenance costs and require certain road conditions such as reduced grades, heavier base, wider pavement, heavier bridge structures, greater turning distance (affecting cloverleafs) creeper strips, etc. Operating costs such as traffic control, snow and ice removal, street cleaning and lighting are charged to all vehicles on a vehicle mile basis. In this way the cost responsibility of 28 weight groups of road users was calculated on a vehicle mile basis. This study indicates the cost responsibility rises therefore with an increase in weight.

In general those who have studied this intensively feel that the gallonage tax roughly equates the cost responsibility up to vehicles of a gross weight of approximately 18,000 lbs. The findings of an incremental cost study in Ontario would be of considerable assistance in assessing cost responsibility to the various weight groups of road users.

The gasoline gallonage tax has one further serious disadvantage beyond its regressive characteristics as a tax on heavy vehicles as outlined above. This is, that revenue does not rise with inflation of currency. Inflation of the dollar brings higher prices of building materials and higher cost of construction, but since the fuel tax is tied to the gallon as a unit, revenues increase only when vehicles travel greater mileages or the number of vehicles increases. Thus an increase in revenue from the gas tax merely represents greater use of the road system. If prices remain constant then the increased revenues would offset the cost of new construction required to meet the increased demands. This has not been the case, for example, in the United States between 1941 and 1954 gasoline tax rates increased by only 29 per cent while highway costs increased 100 percent. In Ontario there has been no increase in gasoline tax paid by the motorist since 1941. A tax on diesel fuel per gallon is subject to the same reasoning. The only way in which rising costs can be offset insofar as gasoline tax is concerned is through revision of the amount of tax levied per gallon.

REGISTRATION FEES

The table on page II of the Appendix sets out the registration fees for various classes of vehicles in Ontario since 1938. This is the oldest type of tax approach. It was in 1903 that Ontario first introduced a licensing system into Canada when statistics for that year show 178 motor vehicles licensed. Ontario has registered at the end of 1956, 1,692,363 motor vehicles for which licence fees are collected in varying amounts. This tax base was originally designed to cover the cost of administration of the motor vehicle registration system and to collect a basic user tax to help defray some of the general costs of the Highways Department. Properly the registration fee should be considered an annual "standby" charge for motor vehicles thereby granting them the privilege of using any part of the highway system in the Province. There are certain limitations, such as those applying to heavy transport vehicles which are barred from certain lightly constructed streets, subject to restrictions on permissive weights, and P.C.V. operators who must travel within the terms of their licence. For the payment of this annual registration fee the owner of a motor vehicle is given the privilege to operate his vehicle anywhere in the Province without any further charge other than the tax paid through his purchase of gasoline.

The result has been that since the licence fee lends itself to simple adjustment, increased charges are levied on registered vehicles in relationship to maximum weight, although the fee is continued under the guise of an annual registration charge. What in fact has happened, is that an added tax charge has been included which rises with the weight of the vehicle and therefore in that way represents a partial weight tax.

The registration fee is subject to the same weakness as the fuel tax since it does not rise with monetary inflation but only increases when more vehicles are registered. An increase in revenue therefore only reflects a corresponding increase in demand and does not offset higher construction costs. The tax is, of course, subject to adjustment but little was done in this regard until 1956. Even then a 4 cylinder motor vehicle paying \$5.00 in 1938 pays just \$7.00 now, which in terms of 1938 dollars is much less than the amount collected at that time. Since all vehicles under the incremental cost theory share certain costs in common then it would seem to be advisable to have a basic licence charge graded with weight so that a higher fee would be collected from heavier passenger vehicles. The fuel tax would act to collect a progressive amount from heavier vehicles and those with bigger and more powerful engines since gasoline consumption bears a relationship to these factors.

Registration fees on motor vehicles from 2 tons and up should be correspondingly reviewed and adjusted. A vehicle just under 3 tons in 1939 paid a registration fee of \$18 and today the same vehicle pays \$25. Thus in terms of 1939 dollars the present registration charge is lower.

THE REVENUE PROBLEM

The table below which sets out the history of the gasoline tax shows that in 1939 the gallonage tax at 8 cents was in effect higher in terms of real dollars than the present 11 cent tax. The tax which is considered by the Department to be a tax on motor fuels, including diesel fuel and liquified petroleum

gas, has not increased as far as the motorist is concerned since May 1, 1941. At the same time highway construction costs have more than doubled as a result by higher wage rates, prices of materials and equipment. Since in terms of 1939 dollars the present purchasing power of \$1.00 is approximately 48 cents the Highways Department expenditures of \$158,000,000* in the fiscal year of 1956 bought only about \$77,000,000 worth of work in terms of 1939 dollars (chart, page 37). As mentioned above, registration fees have not increased in proportion to the costs of construction and administration.

HISTORY OF THE GAS TAX

The gasoline tax was first introduced on May 11, 1925.

May 11, 1925.....	3 cents	
March 28, 1929.....	5 cents	
April 1, 1939.....	8 cents	
May 1, 1941.....	11 cents	(includes 3 cents federal tax for war purposes which was imposed at that time.)
April 1, 1947.....	11 cents	(federal tax ceased and Province increased rate at same time.)

The great disadvantage of a higher user tax based on registration fees and fuel gallonage is that inflation of currency is not reflected in higher revenue. For example, a tax base of 11 cents a gallon generates more revenue only when more vehicles use Ontario roads and or vehicles travel greater mileages. Technological advances have increased the efficiency of engines and have introduced new types of fuels which act to reduce the revenues generated by the gallonage tax. The total amount of taxes collected in one year increases only because highway demand has increased. The result has been that in Ontario this increased highway demand has created deficiencies faster than our road budget has been able to correct them.

The experience has been that the cost of road and bridge construction has risen in almost the same proportion as the increase in cost of other services thus the tax dollar will buy less. The only stabilizing force has been the increased efficiency of machines used by the contractors and the introduction of new methods.

An examination of Ontario's revenues and expenditures shows that the highway capital and maintenance budget has increased each year, but it is obvious that this has not been adequate since the Highway Needs Study reveals a backlog of \$782,000,000. We were advised by those who are conducting the study that it would be necessary for Ontario to spend 145.6 million dollars annually for the next ten years to catch up on the backlog for King's Highway needs alone at 1955 costs. A rough estimate of the municipal backlog reveals an additional required annual expenditure of approximately \$170,000,000, of which, under the present formula, the Province would contribute \$85,000,000 annually. This means that construction costs alone for the next ten years should be in the neighbourhood of \$230,000,000 annually. Unless we increase our expenditures significantly it is obvious that the highway backlog will increase and therefore the Committee studied the problem of inadequate revenues very carefully to determine the fairest adjustment. It is very difficult to establish future demands on any valid basis. The value of a deficiency study is primarily that it points out weaknesses in past policies. Even with the

*Total of the King's Highways, Secondary Road and Municipal Subsidies, less Federal Government grants for Trans-Canada Highway.

most careful and detailed deficiency studies "past predictions have been notoriously bad." In California state highway deficiencies were estimated at 1.7 billion dollars, after five years of unprecedented spending they are estimated at 3 billion dollars."²

Directly interpreted this might make one pessimistic of ever catching up with highway needs, but unless the problem is attacked in a business like way it is obvious that the situation will continue to deteriorate.

In the light of this information it is obvious that we must accelerate our programme to clear up the backlog of deficiencies as quickly as possible. It is a matter of arbitrary decision whether the period of time be five, ten or even twenty years to accomplish this. It is obvious that the shorter the period the greater will be the benefit to be enjoyed by present highway vehicle operators; but at a greater annual cost. The Committee considered whether it would be valid to attempt to pick up such a backlog out of current revenue on a pay-as-you-go basis.

Studies on this subject have established that pay-as-you-go financing is ordinarily justified on a purely economic basis only if no substantial net additions to the highway system are involved and the Committee therefore believes that credit financing under certain conditions can be justified.

Some of the American States faced with a serious highway backlog and conflicting and competing demands upon an inadequate highway budget, turned to the Toll Road approach in order to construct the most expensive multi-lane highways, which is in effect a form of credit financing. Since Ontario is faced with a total road backlog of almost one billion dollars it seems only reasonable that part of this construction, which represents new capital additions to the highway system should be built through money raised by a bond issue. It is our recommendation that the life of the bond issue should be no more than twenty years. This would give the Department of Highways sufficient funds to construct new projects at an optimum rate with the only limitations being the resources of the contractors and the sufficiency of engineering personnel in the Department. A larger accelerated programme of construction would encourage the contractors to increase capacity and thereby help to ensure that the bids on work would be at competitive rates. If urgent projects are delayed until user revenues are adequate to deal with them, this delay actually represents a hidden cost to the highway users since better roads result in faster and safer operations. Such economies are difficult to assess but they are considered to be substantial.

The main objection to a bond issue to pay for roads stems from the concern that fifteen to twenty years hence our children will be paying taxes to meet capital and interest payments on roads, which at that time may be no longer adequate. This was the feeling of some people in the 1930's when times were difficult, who objected to payments made on bond issues for roads built at the end of world War I and in the early 1920's. Actually, this criticism has little validity since a future generation will benefit from roads built today which are properly planned and maintained. Even though they may be in a state of obsolescence, fifteen to twenty years hence, the highway users of that time will have a very valuable right-of-way available for whatever reconstruction and rehabilitation may be required. It is obvious that if construction today is postponed it will become more and more difficult and expensive to correct the situation. If taxes were raised sufficiently to pay new capital construction costs entirely without financing some of the cost through a bond issue, the concentrated burden on tax payers would almost be intolerable. There is evidence that the saving which comes about through improved road facilities should more than offset the interest costs of a bond issue.

There is every indication that Ontario's economy is developing on a broad and sound foundation and that conditions are such that progress will continue. It is obvious that our transportation system must be developed at an accelerated pace to serve the needs of Ontario's economy.

Highway financing on a pay-as-you-go basis is, of course, the ideal approach. An ambitious programme of capital expansion would increase the tax burden on users proportionately, and may make motor vehicle transportation unduly expensive. This expense might discourage its proper development and place motor transport at a disadvantage in competition with other forms of transport. Any well managed business operation faced with an urgent expansion of capital plant usually finances part of that expansion by borrowing in one form or another and amortizing the cost over the lifetime of the new capital assets thus provided. A sinking fund would be established to pay for this cost and existing capital plant is depreciated so that when it is obsolete the funds exist for its replacement. Such expansion, of course, must be within the means of the business and in the case of highways within the means of the Province. Our Hydro developments have followed this pattern. Ontario's road developments, after World War I, were in part paid for by bond issues, and Ontario was thereby provided with a valuable network of roads —admittedly not up to present standards, but the roads served the community well in those days. These roads provided valuable right-of-way for later construction even though the benefits of proper planning were not available.

²H. E. Davis and R. M. Zettel, 1951, in a paper presented at Los Angeles, California.

Bond financing kept to reasonable proportions, together with moderate increases in user charges, will pay the cost of an accelerated programme of highway construction. If user revenues increased more than highway demands, then it would be possible to retire some of the bond issue. Good business management on the part of the Department would allow them to refinance the debt when interest rates are low and thereby reduce interest charge.

The Province should resort to credit financing only when user revenues are inadequate for major capital expansion. We should therefore ensure through proper taxation that present users pay their full share of road construction, maintenance and appropriate law enforcement expenses, and not defer this cost for future generations. In order to protect the highway user in his contribution by way of user charges and to make certain that the bond issues are not used in such a way as to permit diversion of revenue to other Provincial expenditures, it would be advisable to require the Department of Highways to report the complete financial picture at the end of each fiscal year. In effect, the Department of Highways would be financed in a similar way to the Ontario Hydro Electric Power Commission and the users of the highways would be assured that tax payments were applied to the maintenance and development of the road network and that diversion would not be possible. As we stated in our interim report, concerning the danger of diversion "from the information available to the Committee, Ontario has avoided this situation; in fact, expenditures have outstripped revenue". The analysis of expenditures shows that, since the end of World War II, highway user revenue has not kept pace with expenditures. If the Government adopts the policy of issuing bonds to assist in capital construction, such bonds are in effect a mortgage against the net capital value of highways in Ontario. Such an approach has been recommended elsewhere: "a judicious combination of pay-as-you-go and pay-as-you-use financing is consistent with current theories of highway finance."³ In Colorado, in December, 1955, Mr. Harmer E. Davis in a "Review of the Problems of Highway Financing" stated that "aside from political considerations there appears to be no fundamental difference between borrowing by a utility for example, to construct a power plant or transmission line and borrowing by the State to construct or improve freeways".

GASOLINE TAX

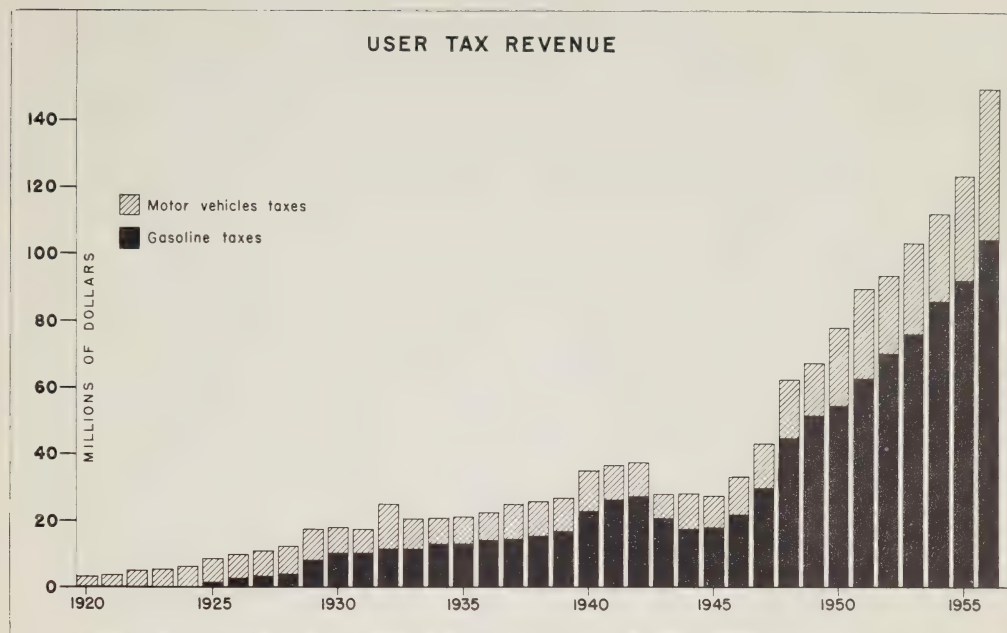
The owner of a passenger car today travelling 8,000 miles a year and obtaining 20 miles per gallon of gasoline pays approximately \$58.00 a year in taxes, which includes a registration fee. This is approximately the average contribution of passenger car operators in this Province since the average registration fee paid is \$13.05 and the average car travels 8,000 miles in one year of a passenger vehicle. For \$58.00, therefore, the average owner of a passenger car buys the right to travel over 82,270 miles of roads in the Province. These roads are available for use whether they are used or not, and the Department of Highways and municipal authorities must keep them properly maintained even in the winter months. In the United States it is reported that for every \$90.00 spent to buy and maintain a motor vehicle, \$10.00 is spent on roads. Such an unbalanced expenditure must lead to inadequate roads since motor vehicle demands will increase at a faster rate than facilities can be constructed. The average motorist in Ontario pays an annual automobile insurance premium of \$55.00 (estimate of Ontario Department of Insurance) which covers public liability and property damage as well as fire and theft. Collision insurance would be additional to this amount. Parking and storage charges in urban areas would cost at least \$120 per year, depreciation charges would be anywhere from \$200 to \$500 a year depending on the age and type of vehicle, repairs and maintenance costs are at least \$100 on the average. Therefore, the amount paid in user taxes to the Province is very small in comparison to the total cost of operating the vehicle.

In California, where a thorough study was conducted, a one cent increase in gasoline tax for the average passenger car operator would increase his total operating cost less than 1 per cent although it represents a 22 per cent increase in the state tax.

It is advisable, therefore, to increase the gasoline tax in Ontario by an amount sufficient to produce additional revenue to finance the accelerated programme of highway construction which is necessary if the present backlog is to be overcome and to finance the construction of the highways that are needed in the Province. It is estimated that a one cent increase in the gas tax would produce approximately \$10,000,000 and any increase of this or a larger amount would fall most heavily on the passenger car operators and the operators of light vehicles. The Committee feels, therefore, that an adjustment is necessary in regard to the registration charges paid by the heavier vehicles. This matter will be dealt with in detail later in the report.

By way of example, a one cent increase in the gas tax to the average passenger vehicle operator would actually increase his operating expenses by less than one per cent, assuming 400 gallons of gasoline consumed annually, \$200 annual depreciation charges and the other average costs outlined above at the

³ Richard M. Zettel in a paper presented at Detroit, Michigan, October, 1955.



lowest estimated figure. A one cent increase in the gas tax, therefore, providing an additional \$10,000,000 for construction and maintenance of highways would mean that the average motorist would have more and better roads built at an additional cost of less than one percent of his total motor vehicle costs. It can be seen from these figures that a substantial amount of revenue can be raised from the source without unduly increasing the average costs of the average motor vehicle.

OTHER FUELS

Ontario at present has a fuel tax based on 11 cents per gallon no matter what fuel is used in the vehicle. The same tax is levied on gasoline powered vehicles, diesel vehicles and those powered by liquified petroleum gas (calculated in terms of a factor which produces the number of gallons per tank.) The gallonage tax as we have described is a method of metering highway use. A fuel tax of 11 cents per gallon for all types of fuels is obviously not going to produce the same tax payment per mile of operation for two vehicles of equal weight and size. The tax responsibility should be the same, however; a gasoline powered heavy vehicle which travels four miles to a gallon of gasoline would travel about six miles to a gallon if powered by diesel fuel. The reason for this is that gasoline contains about 60 percent as many British thermal units as diesel fuel. If both fuels are taxed at the same rate the effective tax rate on diesel vehicles is, therefore, lower than for the same vehicle powered by gasoline. It is obvious therefore, that there must be an adjustment in the tax levied on fuel oil to place these vehicles on an equal basis with those powered by gasoline. In order to establish this basis the relationship of each should be worked out in terms of weight miles per gallon of fuel. Some passenger cars are now powered by diesel fuel and therefore their owners enjoy a considerable advantage over the owners of gasoline powered vehicles since they pay less in the way of highway user taxes. An adjustment of the tax rate in terms of miles of operation would not destroy other economies effected by the use of more efficient engines and fuels. If the fuel tax is a mileage metering tax system then the tax cost per mile should be the same for all vehicles of the same weight and size.

The Committee is concerned over reports of evasion of tax payment in regard to fuel oil purchases. It is necessary for the Department to review this problem and increase enforcement procedures.

RECOMMENDATIONS

1. THE COMMITTEE RECOMMENDS AN ACCELERATION OF THE PRESENT HIGHWAY PROGRAMME AND THAT THE GASOLINE TAX IN ONTARIO BE INCREASED TO PROVIDE ADDITIONAL FUNDS FOR THE PROVINCE FOR THIS PURPOSE. The Committee is not in a position to recommend a specific amount but is of the opinion that if the highway construction programme of the Province is to be accelerated an increase in proportion to the programme is required.

2. THE COMMITTEE RECOMMENDS THAT THE PUBLIC COMMERCIAL VEHICLE LICENCE FEES BE ADJUSTED TO COVER FIRST THE COSTS OF ADMINISTRATION AND ENFORCEMENT OF THE PUBLIC COMMERCIAL VEHICLES ACT, WITH THE ADJUSTMENT THUS OBTAINED TRANSFERRED TO THE REGISTRATION FEE FOR THE WEIGHT GROUP. This means that public commercial vehicles and private carriers will pay equal registration fees and the public commercial vehicles will pay an additional amount to cover the extra costs involved in administering and enforcing the Public Commercial Vehicles Act. The result would be to place public carriers on an equal footing with private carriers.

3. THE COMMITTEE RECOMMENDS THAT REGISTRATION FEES FOR ALL TYPES OF VEHICLES BE REVIEWED IN ORDER TO ACHIEVE GREATER EQUITY IN ACCORDANCE WITH COST RESPONSIBILITY. The licence fees presently charged, in spite of the 1956 increase, are lower in terms of real dollars than were the rates in the 1930's. In the same period the highway system has increased in size, and costs have more than doubled.

4. THE COMMITTEE RECOMMENDS THAT THE GOVERNMENT REVIEW THE TAX RATE PER GALLON LEVIED ON FUELS OTHER THAN GASOLINE WITH A VIEW TO EQUATING THE TAX CONTRIBUTION FOR VEHICLES OF THE SAME SIZE AND WEIGHT POWERED EITHER BY GASOLINE OR OTHER FUELS. THIS REQUIRES THAT THERE SHOULD BE AN INCREASE IN THE RATE PER GALLON OF TAX LEVIED ON DIESEL FUELS.

5. THE COMMITTEE RECOMMENDS THAT THE PROVINCE OBTAIN ADDITIONAL FUNDS FOR THE CONSTRUCTION OF NEW HIGHWAY FACILITIES BY ISSUING 20 YEAR BONDS. Credit financing plus higher revenues from highway users will provide sufficient funds to greatly accelerate our highway construction programme. The Committee believes that the benefits derived from such a programme will offset much of the cost involved.

6. THE COMMITTEE RECOMMENDS (PENDING A STUDY BY THE DEPARTMENT OF HIGHWAYS WITH THE OBJECT OF ESTABLISHING A PROPER BASIS OF RATES FOR IMPOSITION OF A WEIGHT-DISTANCE TAX) THAT LICENCE FEES BE ADJUSTED TO REFLECT WEIGHT OF VEHICLES AND DISTANCE TRAVELLED OF VARIOUS CLASSES OF VEHICLES AND FURTHER THAT A VARIABLE FUEL TAX BE APPLIED TO VEHICLES OVER 18,000 POUNDS.

7. THE COMMITTEE FURTHER RECOMMENDS THAT IMMEDIATE STUDIES BE INSTITUTED TO DEVELOP THE NECESSARY RATES FOR THE IMPOSITION OF A WEIGHT-DISTANCE TAX.

The seven recommendations require a careful study of the tax responsibility of heavy vehicles, but at this time it is evident that some new approach is required. The Committee therefore has considered several alternatives.

HEAVY VEHICLES

Since the increase in taxes mentioned above fall most heavily on the passenger car and the light truck it is necessary to develop a taxation approach to balance out the inequity which exists between light vehicle operators and heavy vehicle operators.

The Committee is not in a position to assign actual cost responsibility to the various groups of road users since this can only be determined after an intensive study by skilled engineers and economists. There are several ways in which such a study can be conducted. The incremental cost theory is perhaps most widely accepted but the gross ton-mile approach also has its advocates. Such studies are, of course, essential in order to obtain a clearer picture on how the cost of building and maintaining highways is to be prorated among the users. We believe that the incremental approach is the best and that the findings of such a study should be considered as a guide to the Department of Highways in assessing cost responsibility but not as a final answer.

The Commissioner of Public Roads in the United States, Mr. Thomas H. MacDonald, stressed caution in interpreting findings of such a study in a statement before the 81st Congress, First Session (hearings, page 1028) "because of the technical hazards attendant upon the incremental cost analysis it would be well for the investigator not to place complete reliance on this method alone." Mr. MacDonald again in "A Factual Discussion of Motor Truck Regulations and Taxation" on page 75 noted that "the gross ton-mile purports to assign costs on the basis of relative use or value of service There can be no pretense that the gross ton-mile analysis produces an accurate appraisal of the costs occasioned by vehicles of different sizes and weights. In actual practice it has been found that the gross ton-mile solution is likely to impose much heavier tax burdens on vehicles in the higher weight groups than an incremental solution. . . . The foregoing discussion indicates the serious shortcomings of the theory that road-user tax responsibility should be graduated in proportion to gross ton-miles travelled. These objections should not be interpreted as condemning the use of mileage, ton-mile, and passenger-mile taxes as a part of the mechanism of taxation. When used in combination with registration fees and the gasoline tax, such imposts may provide a means of adjusting the tax burden to an accepted standard of equity. The use of gross ton-miles alone as a measure of road-user tax responsibility is not recommended."

In reference to this problem, Mr. Charles F. Conlon of the National Association of Tax Administrators advised the Committee that "comments made about the use of the gross ton-mile method of allocation of highway costs among classes of users are sometimes referred to as if the comments were made about the use of a ton-mile tax or a weight-distance tax as a method of collecting taxes from individual users within a single class. This is an important point because the suitability of a weight-distance tax is widely conceded as a matter of principle . . . with the exception of the trucking industry itself there is no serious question raised as a matter of principle to the use of a weight-distance tax with respect to heavier classes of vehicles. It is true nevertheless that some of those who agree with a weight-distance tax in principle do not recommend its use on the grounds that it is difficult to administer, costly to administer and it imposes a substantial compliance burden on the operators of affected vehicles . . . a decision to employ or not to employ some form of mileage tax should not be made solely on this point of administrative feasibility for the simple reason that in my opinion the weight-distance tax **most certainly can be enforced and enforced effectively**. There are a number of motor vehicle taxes in the States now being enforced on a mileage basis and the same is true with respect to gross-receipts taxes and weight-distance taxes of the type enforced in New York, Ohio and Oregon. It is true that such tax would be more expensive to administer than was the sales or income tax but it certainly would not be more expensive than the cigarette taxes enforced in several states."¹ Mr. George Gathercole, Deputy Minister, Department of Economics reported that in comparison to the 3.88 percent cost of collecting and auditing the weight-mile tax in Oregon the cost of collecting sales taxes (1951-1952) in the various Provinces of Canada, including the allowance to the vendor, cost from 4.18 percent to 5.85 percent to collect. In comparison, however, the cost of collecting gasoline tax in Ontario including vendors commission is just slightly over 1 percent.²

From the studies conducted by the Committee it is obvious that some form of weight-distance tax particularly for heavy vehicles is required to balance out inequities. The introduction of competing forms of fuel and changes in operating efficiencies complicate any tax structure based on registration fees and fuel gallonage taxes. If an engine should be developed to use atomic power then a fuel gallonage tax base would have no meaning whatsoever and some other form of collecting taxes based on use of the road would have to be developed. We feel that the weight-miles tax should be instituted after a careful examination of Ontario conditions and that a rate structure should be established to reflect Ontario's costs.

¹Letter to Committee on Toll Roads dated February 8, 1957.

²Letter to Committee on Toll Roads dated November 24, 1956.

As an interim measure (see recommendation number 6) a balance may be achieved in the present inequities through a higher rate or rates by tax per gallon of fuel levied on trucks with a gross weight of more than nine tons and the adjustment of registration fees to take into consideration the average miles of travel of vehicles in each weight class in Ontario.

In order that the basis of the Committees decision may be appreciated some of the factors involved and the various tax approaches considered are set-out hereafter. The Committee reviewed:

1. Ton-Mile tax.
2. Gross or Net Receipts tax.
3. Weight-mile tax.
4. Adjustment of registration fees.
5. Variable fuel tax.

In appraising these various systems the following three basic conditions are assumed in each case.

1. An adjustment in the gasoline tax to increase this tax to all users in an amount necessary to meet the accelerated road programme.
2. Revision in the registration fees paid by all light vehicles to an amount more in keeping with a proper "standby" or "availability" charge.
3. An adjustment in the cost of public commercial vehicle licences so that the revenue obtained will cover the cost of administration and enforcement and the amount of the adjustment transferred to the registration charges applying to public commercial vehicles and private carriers alike, with the result that public commercial carriers and private carriers will make an equal contribution necessary for our highway programme.

COMMERCIAL MOTOR VEHICLES

GROSS WEIGHT	*1946	*1952	1956	
			Commercials	Buses
Not more than two tons.....	30,208	42,303	50,307	
Two tons to two-and-a-half tons.....	16,399	80,629	106,937	10
Two-and-a-half tons to three tons.....	12,338	22,946	25,446	19
Three tons to three-and-a-half tons.....	3,856	8,778	9,823	—
Three-and-a-half tons to four tons.....	7,720	9,962	9,755	66
Four tons to five tons.....	9,582	14,227	12,764	87
Five tons to six tons.....	6,439	8,185	8,445	249
Six tons to seven tons.....	4,970	5,856	5,769	671
Seven tons to eight tons.....	8,451	11,596	9,695	643
Eight tons to nine tons.....	4,011	6,015	5,789	391
Nine tons to ten tons.....	4,521	6,591	6,531	623
Ten tons to eleven tons.....	2,215	9,764	9,668	457
Eleven tons to twelve tons.....	201	4,045	5,459	217
Twelve tons to thirteen tons.....	90	171	1,728	484
Thirteen tons to fourteen tons.....	36	87	7,306	9
Fourteen tons to fifteen tons.....	69	73	118	—
Fifteen tons to sixteen tons.....	47	98	98	10
Sixteen tons to seventeen tons.....	102	340	292	—
Seventeen tons to eighteen tons.....	—	828	775	50
Eighteen tons to nineteen tons.....	—	—	2,178	4
Conversion Units.....	—	—	142	—
*Including buses.				
	111,255	232,494	279,025	3,990

TON-MILE TAX

The ton-mile tax is a tax based on two variables, namely, the weight of the vehicle plus its load and the operating mileage. This tax was ruled out by the Committee as it was felt that the two variables of weight of vehicle, plus load and mileage of operation are impossible to compute in a manner that is enforceable, for instance, any reduction in weight such as deliveries of articles enroute would change the tax base on the same vehicle and create an impossible administrative problem.

NET AND GROSS-RECEIPTS TAX

This form of tax is imposed in the State of California where it has proved to be quite unsatisfactory. It is a tax based on the net or gross-receipts as reported by the operator of a commercial highway vehicle. Such taxes are unfair to efficient operators and to carriers of light or highly valued commodities. There is some doubt that constitutionally the Province would have a right to impose such a tax.

ADJUSTED REGISTRATION FEES

This system in essence provides for a graded registration fee calculated to reflect the weight of the vehicle and the average mileage travelled. It is put into effect by estimating the average mileage of each of the various weight classes of highway vehicles. This form of tax would require no change in administration since it is a development of our present system of payment of registration fees. It does entail studies to determine the cost responsibility of the various weight groups of users, the registration fee for each group would then be set so that a sum sufficient to meet the requirements of the accelerated highway programme would be obtained.

The Committee recommends this approach on an interim basis until such time as the rates for a proper weight distance tax and the necessary administrative machinery can be established. **The Committee has recommended further that payment of these fees be put on a quarterly basis in order that an operator is not met with the problem of paying a high yearly registration fee in a lump sum at the beginning of the period during which he must earn that fee.**

The Committee feels that this tax would be relatively simple to administer, easy to police since some portion of the registration fee must be paid prior to the issuance of licence plates. However, since the average miles of operation for each weight class of vehicle is used each group contributes its full share of tax revenue and these revenues should reflect the weight carried and distance travelled of the group. It is a tax that is difficult to avoid and should not require a great deal of auditing, and further, it provides that each vehicle will contribute its share of the tax levied on the group regardless of what type of fuel may be used. In addition, the tax provides no penalty for efficiency of business operation or for technological progress. The Committee further feels that this type of tax serves to redress the inequity which exists in a straight increase of the gasoline tax which increase falls most heavily on the lighter vehicle. The schedule of registration fees may be adjusted to ensure a proper contribution to the revenues of the Province from the heavier vehicles.

VARIABLE FUEL TAX

This tax gets its name from the fact that the gasoline tax rate per gallon is increased for heavier vehicles, with the tax graded upwards for each specific weight category. In the State of Virginia an increased tax rate of two cents a gallon is charged against heavy vehicles having more than two axles, although certain exemptions are allowed. A detailed study would probably indicate the necessity for several upward steps in this tax, subject to the administrative problems involved.

This tax would require every carrier to report the number of gallons of fuel consumed by his vehicles having a gross weight of nine tons or more on their operations in Ontario. It would require, however, an administrative organization to enforce the tax through auditing of returns, in order to keep evasion to a minimum.

The Committee feels that an approach adopting this tax, plus the adjusted registration fees dealt with previously, constitutes a major step towards recognition that the tax paid for the use of our highways should vary with each weight mile of use. As an expedient these two systems will give the Province valuable experience and will prepare the way for the more elaborate tax system based on the weight mile, which is dealt with below. The combination of these two systems will reduce in part the present inequities caused by the regressive characteristic of the gasoline tax and there is some indication that such taxes are recognized as fair by the Transport Industry. The American Trucking Association, in a booklet entitled "Taxation of Interstate Trucks", reported concerning the Virginia tax that "the Virginia method accomplished the objective with a minimum burden upon the State and the truck owners". The basic adjustment in the gasoline tax recommended by the Committee for all users will place the heaviest burden on passenger vehicles and light trucks and therefore a variable fuel tax, plus adjusted registration fees, will reduce this inequity and will be more in keeping with the greater cost responsibility of heavy vehicles for construction and maintenance.

WEIGHT-MILE TAX

The weight-mile tax was given a great deal of very careful study by the Committee. It is a tax computed by establishing a rate for various weight groups of heavy vehicles. Such rates must reflect the responsibility of the weight group to which they apply for the cost of construction of highways, the

maintenance of highways and also the availability of highways for use for that particular group. The introduction of such a system in Ontario in the opinion of the Committee would require immediate studies to establish these rates on a proper basis of cost responsibility in which would be reflected all the circumstances peculiar to this Province. There are schedules of rates for weight mile taxes which have been established in other jurisdictions, but it is the opinion of the Committee that these rates would not be satisfactory if merely applied to this Province. However, the Committee is of the opinion that this type of tax approach is inevitable if we are to obtain sufficient revenue to finance the construction and maintenance of the highways required by the Province and at the same time achieve equity among the various groups using our highways. This is a system which will apply to all vehicles in the weight group equally, and relate directly to use.

This tax will require a system of weigh stations, but it is the opinion of the Committee that these weigh stations are fundamental; in any event, in order to protect our highways against overloading. Competent inspectors and auditors will be required as the movement of out-of-Province vehicles must be checked.

It will be necessary, also, that tax evasion be kept to an absolute minimum by strict audit and inspection in order that the more responsible operator is not penalized.

The Committee feels that the weight-distance tax provides a fair tax basis since taxes paid represent the actual use made of the highway. Weight is widely recognized by highway authorities as a prime factor in both the cost of highway construction and in maintenance. No matter what fuel is used, the tax payment is the same and this is the great advantage of placing no impediment in the way of efficient operation through technological progress or efficient management and further prevents these factors from complicating tax collection. In addition, it will provide an increase in revenues from the heavier high mileage vehicles which have not been contributing their fair share. Inadequacy of payments from this group have become more serious with the introduction of new fuels and the great percentage increase in the number of heavy vehicles compared to light vehicles.

Proper administration of this tax system through an adequate system of weigh scales will control overloading and will remove this abuse as a factor in the undue depreciation of our highways. The Committee feels that a complete system of weigh scales is essential whether this tax is adopted or not.

However, this tax provides a very flexible yardstick for adjustment of revenue since the tax rate for each weight group of vehicles is easily adjusted. It is further felt that such a tax will have public support when it is fully explained.

This tax may be paid on a monthly basis, reflecting the actual use of the highway, which is fair to both the large and the small operator. It would reduce the burden of a high registration fee on the small mileage operator and provide revenue in direct proportion to actual miles travelled and weight carried over the highways. This tax would apply to out-of-Province vehicles and would result in these vehicles paying their fair share of both construction and maintenance of Ontario highways upon which they ride. Every complication brought about by technological progress, new fuels and heavier vehicles could be taken care of very easily by such a graded tax system based on weight times mileage.

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HIGHWAYS DEBT

STATEMENT

Statement Showing Excess of Cost of Constructing and Maintaining Highways of Ontario
Over Total Revenue from Highways

1889 to 1957

(Thousands of Dollars)

Excess of Capital Expenditure and Ordinary Expenditure on Public Roads by Province over Highways Revenues, 1889 to October 31, 1918	13,061
Capital Expenditure on Highways—November 1, 1918 to March 31, 1957	976,171
Ordinary Expenditure on Highways—November 1, 1918 to March 31, 1957	792,370
	<u>1,781,602</u>
DEDUCT:	
Ordinary Revenue from Gasoline Taxes and Motor Vehicle Licences—November 1, 1918 to March 31, 1957	1,570,004
DEFICIT	<u>211,598</u>

N.B.—Revenue and Expenditure figures for the Fiscal Year ended on March 31, 1957, are based on estimates.

SCHEDULE

Schedule Showing Detail in Support of Statement of Excess of Cost of Constructing and Maintaining Highways of Ontario Over Total Revenue from Highways

1889-1957

(Thousands of Dollars)

	ORDINARY EXPENDITURE		CAPITAL EXPENDITURE		ORDINARY REVENUE		DEFICIT OR SURPLUS	
	Annual	Cumulative	Net Annual	Cumulative	Annual	Cumulative	Annual	Cumulative
1889 to October 31, 1918—Deficit Balance			13,061	13,061			13,061	13,061
October 31, 1919	1,104	1,104	3,414	16,475	1,580	1,580	2,938	15,999
1920	1,614	2,718	8,205	24,680	1,991	3,571	7,828	23,827
1921	1,639	4,357	12,434	37,114	2,945	6,516	11,128	34,955
1922	1,787	6,144	15,408	52,522	3,477	9,993	13,718	48,673
1923	4,151	10,295	20,308	72,830	4,296	14,289	20,163	68,836
1924	3,611	13,906	6,822	79,652	4,785	19,074	5,648	74,484
1925	3,997	17,903	6,273	85,925	7,613	26,687	2,657	77,141
1926	4,363	22,266	8,888	94,813	9,792	36,479	3,459	80,600
1927	5,530	27,796	11,109	105,922	9,998	46,477	6,641	87,241
1928	5,971	33,767	13,779	119,701	11,078	57,555	8,672	95,913
1929	6,071	39,838	16,364	136,065	16,346	73,901	6,089	102,002
1930	7,046	46,884	18,748	154,813	16,304	90,205	9,490	111,492
1931	6,460	53,344	18,970	173,783	16,561	106,766	8,869	120,361
1932	6,097	59,441	16,355	190,138	19,718	126,484	2,734	123,095
1933	4,442	63,883	6,568	196,706	20,050	146,534	9,040*	114,055
October 31, 1934	5,717	69,600	32,558	229,264	21,011	167,545	17,264	131,319
March 31, 1935—5 Months	2,715	72,315	11,562	240,826	10,929	178,474	3,348	134,667
1936	6,326	78,641	13,938	254,764	24,166	202,640	3,902*	130,765
1937	6,196	84,837	8,217	262,981	26,681	229,321	12,268*	118,497
1938	8,961	93,798	34,177	297,158	26,412	255,733	16,726	135,223
1939	9,183	102,981	32,877	330,035	26,411	282,144	15,649	150,872
1940	10,148	113,129	21,867	351,902	33,793	315,937	1,778*	149,094
1941	13,561	126,690	12,916	364,818	35,927	351,864	9,450*	139,644
1942	17,659	144,349	18,104	382,922	37,791	389,655	2,028*	137,616
1943	12,707	157,056	7,303	390,225	28,328	417,983	8,318*	129,298
1944	16,887	173,943	2,509	392,734	28,540	446,523	9,144*	120,154
1945	15,963	189,906	2,747	395,481	28,364	474,887	9,654	110,500
1946	19,814	209,720	3,326	398,807	33,947	508,834	10,807*	99,693
1947	26,422	236,142	19,440	418,247	44,491	553,325	1,371	101,064
1948	37,043	273,185	26,651	444,898	62,055	615,380	1,639	102,703
1949	41,707	314,892	28,121	473,019	67,606	682,986	2,222	104,925
1950	42,620	357,512	32,270	505,289	75,578	758,564	688*	104,237
1951	49,716	407,228	35,936	541,225	85,377	843,941	275	104,512
1952	57,352	464,580	48,475	589,700	92,611	936,552	13,216	117,728
1953	60,284	524,864	63,075	652,775	102,494	1,039,046	20,865	138,593
1954	57,907	582,771	59,012	711,787	112,442	1,151,488	4,477	143,070
1955	62,824	645,595	52,281	764,068	121,395	1,272,883	6,290*	136,780
1956	72,466	718,061	89,299	853,367	145,121	1,418,004	16,644	153,424
1957	74,309	792,370	135,865	989,232	152,000	1,570,004	58,174	211,598

*Bold face figures in 2nd column from right indicate surplus.

Fiscal Year to March 31, 1957, are estimated figures.

SCHEDULE OF FEES **FOR PERMITS FOR** **MOTOR VEHICLES AND TRAILERS**

The following registration fees apply to the registration of, and the issuance and renewal of permits for, motor vehicles and trailers:

For motor vehicles, except as hereinafter specified, having

	1938 to 1955	1956-1957
4 cylinders, if motor vehicle manufactured in or before 1933.....	\$ 2.00	\$ 3.00
4 cylinders, if motor vehicle manufactured after 1933.....	5.00	7.00
6 cylinders, up to and including 28 horse-power.....	7.00	10.00
6 cylinders, over 28 horse-power.....	10.00	14.00
8 cylinders, up to and including 35 horse-power.....	10.00	14.00
8 cylinders, over 35 horse-power.....	15.00	21.00
12 cylinders.....	25.00	35.00
16 cylinders.....	35.00	49.00

For commercial or dual purpose motor vehicles, except motor buses, having a combined weight and carrying capacity

	1938 to 1955	1956-1957
Of not more than 2 tons.....	\$ 7.50	\$ 10.50
2 tons to 2½ tons.....	12.50	17.50
2½ tons to 3 tons.....	18.00	25.00
3 tons to 3½ tons.....	27.00	38.00
3½ tons to 4 tons.....	36.00	50.00
4 tons to 5 tons.....	48.50	68.00
5 tons to 6 tons.....	63.00	88.00
6 tons to 7 tons.....	73.50	103.00
7 tons to 8 tons.....	84.00	118.00
8 tons to 9 tons.....	108.00	151.00
9 tons to 10 tons.....	127.50	179.00
10 tons to 11 tons.....	148.50	208.00
11 tons to 12 tons.....	171.00	239.00
12 tons to 13 tons.....	195.00	273.00
13 tons to 14 tons.....	220.50	309.00
14 tons to 15 tons.....	247.50	356.00
15 tons to 16 tons.....	264.00	391.00
16 tons to 17 tons.....	280.50	427.00
17 tons to 18 tons.....	297.00	463.00
18 tons to 19 tons.....	313.50	502.00

For trailers and semi-trailers having a combined weight and carrying capacity

	1938 to 1955	1956-1957
Of 1 ton or less.....	\$ 2.00	\$ 2.50
1 ton to 2 tons.....	7.50	10.50
2 tons to 3 tons.....	15.50	22.00
3 tons to 4 tons.....	24.00	34.00
4 tons to 5 tons.....	37.50	53.00
5 tons to 6 tons.....	49.50	69.00
6 tons to 7 tons.....	57.50	81.00
7 tons to 8 tons.....	66.00	92.00
8 tons to 9 tons.....	81.00	114.00
9 tons to 10 tons.....	90.00	126.00
10 tons to 11 tons.....	115.50	162.00
11 tons to 12 tons.....	126.00	176.00
12 tons to 13 tons.....	136.50	191.00
13 tons to 14 tons.....	147.00	206.00
14 tons to 15 tons.....	157.50	227.00
15 tons to 16 tons.....	168.00	249.00
16 tons to 17 tons.....	178.50	272.00
17 tons to 18 tons.....	189.00	295.00
18 tons to 19 tons.....	199.50	320.00

For motor buses and trolley buses designed and used exclusively for the transportation of passengers having a seating capacity of nine or more passengers and having a combined weight and carrying capacity

	1938 to 1955	1956-1957
Of not more than 2 tons.....	\$ 7.50
2 tons to 2½ tons.....	12.50	\$ 17.50
2½ tons to 3 tons.....	18.00	25.00
3 tons to 4 tons.....	27.00	38.00
4 tons to 5 tons.....	41.00	57.00
5 tons to 6 tons.....	54.00	76.00
6 tons to 7 tons.....	63.00	88.00
7 tons to 8 tons.....	72.00	101.00
8 tons to 9 tons.....	87.50	123.00
9 tons to 10 tons.....	97.50	137.00
10 tons to 11 tons.....	123.50	173.00
11 tons to 12 tons.....	135.00	189.00
12 tons to 13 tons.....	146.00	204.00
13 tons to 14 tons.....	157.50	221.00
14 tons to 15 tons.....	168.50	243.00
15 tons to 16 tons.....	180.00	267.00
16 tons to 17 tons.....	191.00	290.00
17 tons to 18 tons.....	316.00
18 tons to 19 tons.....	342.00
For commercial motor vehicles and trailers owned by a municipality or school board, and all commercial motor vehicles and trailers, other than motor buses and trolley buses, operated by a commission on behalf of a municipality.....	2.00	2.00
For a trolley bus operated solely within the limits of an urban municipality.....	2.00	2.00
For a motorcycle.....	2.00	3.00
For the transfer of a passenger car, dual-purpose vehicle, commercial vehicle or trailer permit.....	1.00	\$1.00 (1956) \$2.00 (1957)

MUNICIPAL ROADS EXPENDITURES AND SUBSIDIES

The first list shows the subsidizable expenditures made by the incorporated municipalities of the province and the amount of subsidy paid to them.

In the years 1938 to 1946 inclusive, the Province paid subsidy only to Counties, Incorporated Townships, Indian Reserves, and a few Parks.

Commencing 1947, aid was extended to Cities, Towns and Villages on a limited basis and the expenditure figures that we have for that year and for 1948 would not necessarily be the total expenditure by those municipalities. In 1949 the basis was broadened and our expenditure figures would be close to the actual total spent by them. The Municipality of Metropolitan Toronto came into being on January 1st, 1954, and its expenditure for that year and estimated expenditure for 1955 are included in the figures for those years.

The second list shows expenditures from 1946 on Development Roads. Legislation empowering this type of expenditure was enacted in that year and the Province pays 100% of the cost of this type of road. The road is at all times a municipal road, but when designated as a Development Road the Province pays the cost of improving it; then the designation is revoked and the municipality maintains it at the ordinary rate of subsidy.

The third list, for Unincorporated Townships, goes back only to 1943, when aid to this class of township was first turned over to this Section of the Department for administration. Previously, the aid had been extended through the King's Highway and, prior to 1937, through the Department of Northern Development.

Counties, Townships and Indian Reserves and Provincial Parks

	<u>Approved Expenditure</u>	<u>Actual Subsidy</u>
1938	\$ 9,513,238.38	\$ 4,896,809.62
9	10,168,090.60	5,252,992.85
1940	9,001,997.88	4,659,041.96
1	10,257,588.24	5,320,467.19
2	6,919,806.37	3,589,120.85
3	9,464,735.99	4,905,380.88
4	10,938,828.79	5,766,211.49
5	13,388,613.72	7,075,744.80
6	16,759,601.04	8,901,187.54
7	27,494,866.15	14,795,982.23
8	30,648,638.69	16,747,038.74
9	40,101,960.95	20,158,564.83
1950	41,550,774.49	20,691,871.88
1	49,866,902.65	24,533,789.12
2	54,532,804.35	27,189,056.25
3	54,452,289.45	27,190,387.12
4	65,136,633.79	32,787,350.61
5	78,986,996.80	39,677,910.31
1956 (estimated)	92,000,000.00	46,000,000.00
	<u>\$631,184,368.33</u>	<u>\$320,138,908.27</u>

MUNICIPAL ROADS EXPENDITURES AND SUBSIDIES

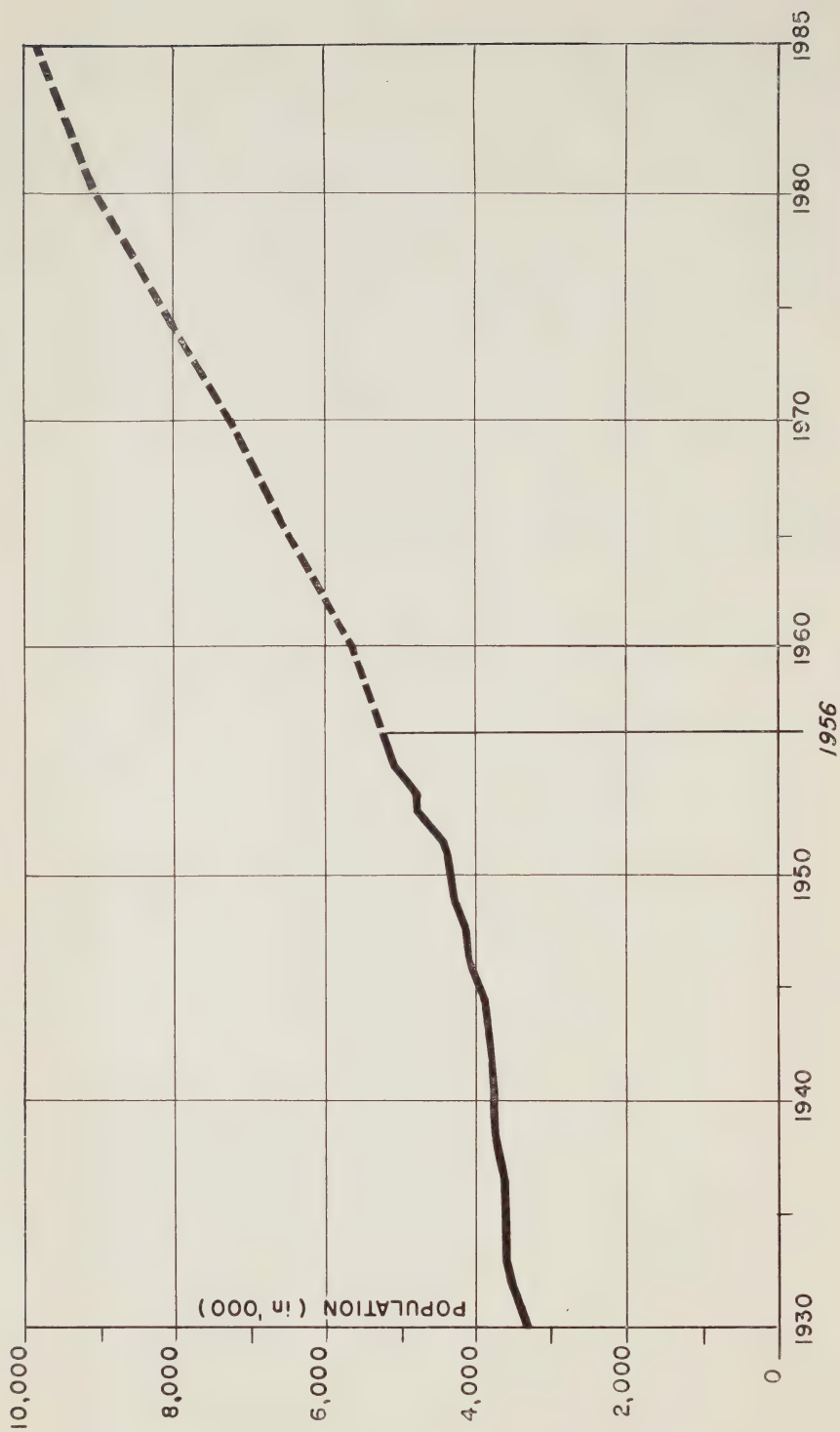
Development Roads		
	<u>Expenditure</u>	<u>Provincial Share</u>
1946	\$ 153,050.00	\$ 153,050.00
7	429,881.00	429,881.00
8	1,479,678.00	1,479,678.00
9	2,353,044.00	2,353,044.00
1950	1,636,582.00	1,636,582.00
1	1,628,821.00	1,628,821.00
2	1,672,813.00	1,672,813.00
3	1,758,940.00	1,758,940.00
4	1,662,061.00	1,662,061.00
5	3,876,267.57	3,876,267.57
1956 (estimated)	4,250,000.00	4,250,000.00
	\$20,901,137.57	\$20,901,137.57

Unincorporated Township		
	<u>Expenditure</u>	<u>Provincial Share</u>
1943-44	\$ 347,702.12	\$ 247,702.12
1944-45	385,577.04	240,608.00
1945-46	434,000.18	261,880.09
1946-47	565,432.89	391,852.92
1947-48	648,658.81	440,934.63
1948-49	905,267.92	662,836.09
1949-50	908,524.00	644,040.72
1950-51	937,662.19	663,680.90
1951-52	1,028,079.18	728,172.38
1952-53	1,159,289.16	830,260.77
1953-54	1,54,012.78	824,394.40
1954-55	1,054,929.67	718,598.93
1955-56	1,161,740.02	831,035.43
1956-57 (estimated)	1,310,000.00	885,000.00
	\$12,000,875.96	\$ 8,370,997.38

SUMMARY

	<u>Expenditure</u>	<u>Provincial Subsidy or Share</u>
Counties, Townships, Indian Reserves, Provincial Parks, Improvement Districts, Cities, Towns, Villages and Metropolitan Toronto	\$631,184,368.33	\$320,138,908.27
Development Roads	20,901,137.57	20,901,137.57
Unincorporated Townships	12,000,875.96	8,370,997.38
GRAND TOTAL	\$664,086,381.86	\$349,411,043.22

ONTARIO POPULATION (Persons Per Motor Vehicle)

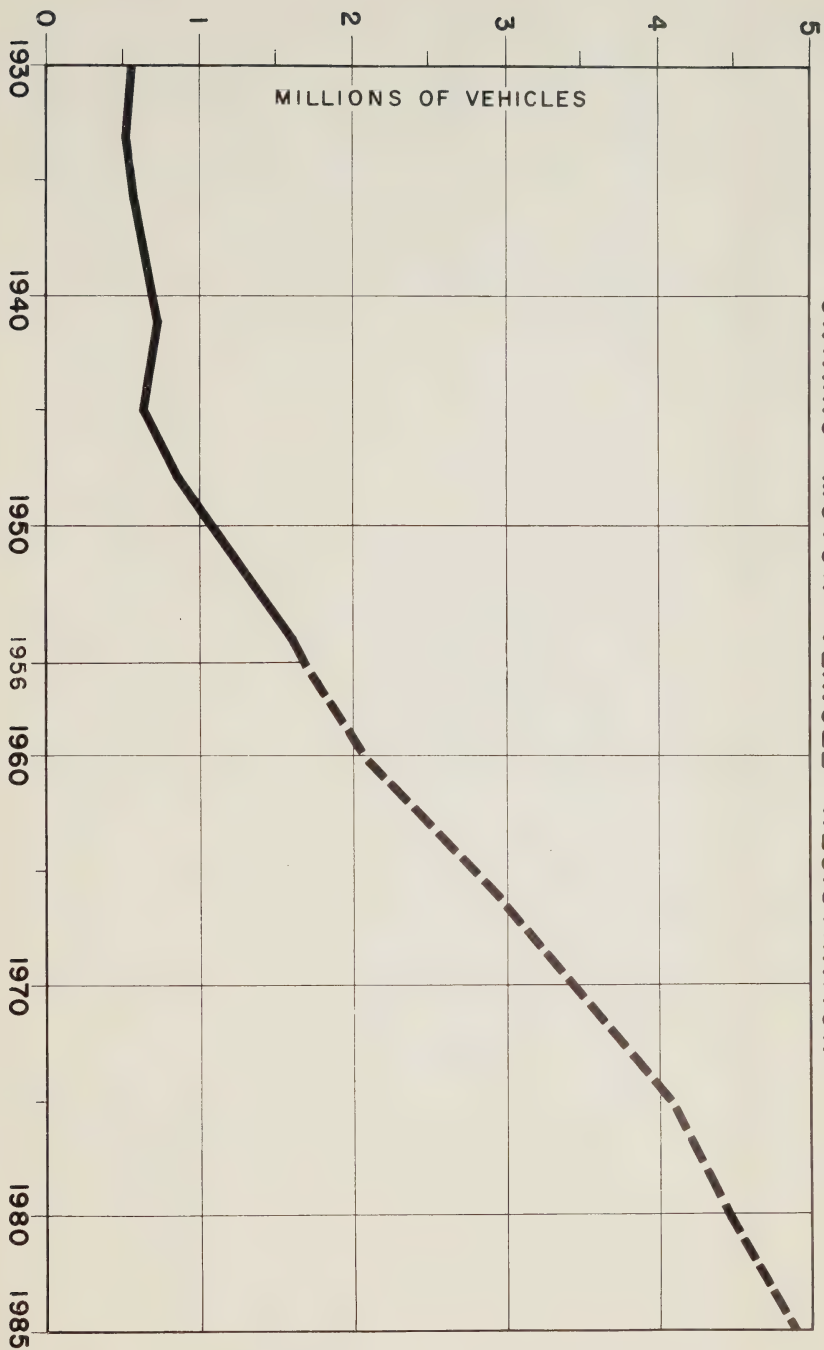


	1938 - 1939	1939 - 1940	1940 - 1941	1941 - 1942	1942 - 1943
	\$	\$	\$	\$	\$
PERMITS AND LICENCE					
Passenger.....	3,687,541.95	4,109,352.12	4,383,844.40	4,623,017.10	2,9
Commercial.....	2,462,525.19	2,728,831.05	3,012,772.55	3,377,822.15	2,7
Dual Purpose.....	6,279.10	6,863.60	6,554.90	7,122.90	
Trailers.....	223,731.18	259,063.30	294,836.25	334,587.66	2
Motorcycles.....	4,180.85	4,326.65	3,907.20	4,663.20	
DEALERS					
Automobiles and Motorcycles....	23,411.00	23,782.00	22,207.00	15,462.00	
Operators and Instruction.....	611,133.80	640,933.20	688,369.70	704,369.00	4
Chauffeurs.....	255,147.10	270,752.70	302,442.70	304,516.60	2
Public Vehicles.....	130,522.64	159,014.64	138,230.70	192,903.84	2
Public Commercial Vehicles.....	271,480.98	263,902.34	212,269.25	314,411.49	2
Garages.....					
Miscellaneous.....	203.06	256.35	328.25	348.18	
	7,676,156.85	8,467,137.95	9,065,762.90	9,879,224.12	7,1
FEES					
In Transit.....	7,403.45	6,995.45	6,339.35	4,575.10	
Duplicate Cards.....	10,743.50	10,285.50	11,827.50	13,759.50	
Transfers.....	116,215.60	112,939.60	129,728.40	146,276.00	
Searches and Certificates.....	1,338.06	1,295.06	1,158.09	1,682.16	
Lists.....	636.35	223.32	886.72	756.57	
Examinations.....	15,311.00	14,630.00	16,034.00	16,799.00	
Testing Headlights.....	460.00	395.06	284.50	160.00	
	152,097.96	146,763.99	166,258.56	184,008.33	
FINES					
Breach of Highway Traffic Act....	75,891.33	68,034.81	80,085.19	81,236.60	
	7,904,146.14	8,681,936.75	9,321,106.65	10,144,469.05	7,3
Due from Agents.....	1,656.20	1,486.45	292.35		
	7,902,489.94	8,680,450.30	9,311,814.30		7,3
Bank Adjustment.....	167.41	1,653.94	1,516.36		
NET TOTAL.....	7,902,657.35	8,682,104.24	9,313,330.66	10,144,469.05	7,3

ONTARIO MOTOR VEHICLE LICENCE REVENUE

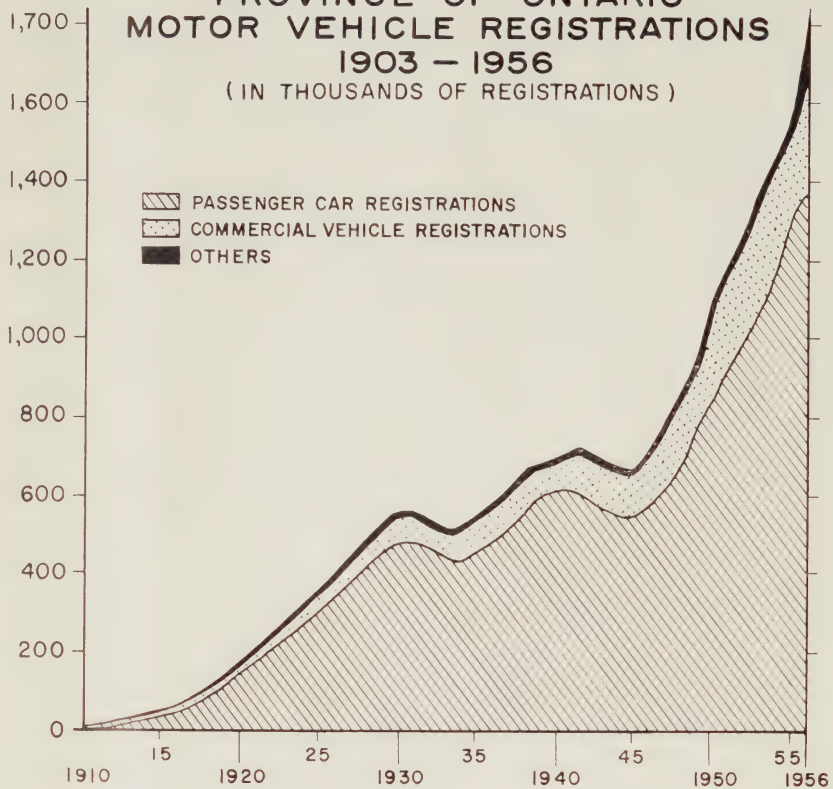
	1938-1939	1939-1940	1940-1941	1941-1942	1942-1943	1943-1944	1944-1945	1945-1946	1946-1947	1947-1948	1948-1949	1949-1950	1950-1951	1951-1952	1952-1953	1953-1954	1954-1955	1955-1956
PERMITS AND LICENCE	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Passenger	1,687,531.95	1,809,152.12	1,853,844.10	1,823,017.10	2,054,919.70	1,779,037.95	1,344,510.55	1,162,079.95	1,026,271.84	1,435,476.94	1,177,532.55	1,518,709.47	1,828,248.10	1,804,192.15	1,762,549.55	1,617,040.31	1,121,596.75	1,318,216.17
Commercial	2,162,525.19	2,724,851.85	3,012,772.55	3,177,822.15	2,756,172.10	3,196,051.75	3,140,521.50	3,251,476.90	3,515,667.84	2,138,861.22	3,561,068.05	3,767,866.34	3,852,679.84	3,181,715.94	3,563,609.58	3,688,712.40	3,715,457.37	3,557,961.51
Dual Purposes	6,229.10	6,861.60	6,954.60	7,122.90	1,577.00	1,577.00	1,214.60	6,275.10	6,289.50	1,958.60	1,788.60	16,107.10	25,524.50	51,523.10	514,199.45	106,511.25	215,411.60	453,201.74
Tractors	225,731.16	239,061.50	291,846.25	154,592.66	271,858.15	325,167.76	115,981.86	151,844.94	177,610.10	537,676.51	585,112.60	665,686.14	583,093.69	618,033.78	1,453,852.36	1,460,982.47	1,725,491.45	2,443,725.13
Motorcycles	4,180.85	4,326.65	3,907.20	4,663.20	2,959.15	4,071.00	4,783.10	5,302.69	6,205.20	9,392.59	8,990.10	16,029.70	25,701.85	32,842.85	24,717.50	22,113.50	21,417.75	21,851.37
DEALERS																		
Automobile and Motorcycles	25,311.00	21,782.00	22,207.00	15,667.00	9,525.00	11,921.00	11,515.00	17,046.00	29,315.00	2,667.00	31,917.30	11,227.74	11,745.00	14,010.00	51,817.00	49,009.00	39,475.00	71,575.00
Operators and Insurers	611,153.60	640,913.20	688,169.70	704,369.00	460,994.30	606,231.10	600,794.80	618,130.10	728,017.00	777,092.94	720,953.60	817,838.14	812,078.00	956,389.50	1,081,531.50	1,188,478.00	1,184,112.00	1,170,562.75
Chaffers	255,147.10	270,752.70	107,182.70	101,516.60	227,198.50	281,871.00	295,228.40	397,192.50	451,835.90	479,851.10	482,760.90	486,865.14	557,174.00	579,546.00	648,103.80	646,570.60	681,768.20	717,175.00
Public Vehicles	130,522.64	159,014.64	138,230.70	192,903.84	206,046.18	197,911.21	213,246.71	262,954.76	361,185.45	347,171.02	485,014.27	552,511.77	446,866.32	531,743.42	549,928.42	511,638.79	536,131.56	615,915.65
Public Commercial Vehicles	271,480.98	263,902.34	211,269.25	314,411.49	178,614.73	166,100.76	145,715.51	270,104.20	300,716.50	360,015.22	479,011.25	507,011.11	655,876.54	765,571.16	914,729.25	1,191,145.77	1,360,751.77	1,488,841.54
Garages													83,678.50	84,964.00	95,421.50	95,237.00	98,821.50	99,926.50
Miscellaneous	203.06	256.35	328.25	318.18	260.27	773.25	377.19	803.62	64.20	437.49	7,556.35	6,347.14	4,450.74	4,386.74	12,301.54	6,148.75	999.78	1,299.00
	7,676,156.85	8,467,187.95	9,065,762.90	9,879,221.12	7,117,806.28	9,174,528.71	9,271,557.21	9,593,250.67	12,991,481.73	14,286,879.04	13,654,686.04	16,873,629.47	19,202,520.95	20,441,958.59	21,023,200.53	25,186,502.47	27,769,007.10	30,014,627.58
FEES																		
In Transit	7,403.45	6,995.45	6,339.35	4,575.10	510.65	273.60	528.35	2,131.15	6,114.95	6,151.95	4,297.30	6,068.75	13,865.10	7,214.15	8,869.60	7,016.20	5,139.10	3,135.50
Duplicate Cards	10,743.90	10,285.60	11,827.40	13,759.50	10,462.00	12,850.00	11,321.50	11,784.00	13,937.00	15,515.00	16,551.00	19,225.00	21,180.50	23,666.00	25,907.00	28,571.00	30,405.00	32,000.50
Tractors	130,715.60	117,919.60	129,728.10	146,776.60	91,516.50	121,046.20	104,473.60	97,616.90	137,825.80	180,020.60	205,114.90	210,186.28	286,758.80	300,573.00	340,456.70	365,636.10	371,255.50	415,096.40
Stickers and Certificates	1,458.00	1,295.00	1,158.00	1,462.10	1,590.75	1,182.75	971.78	1,423.43	2,165.41	5,530.05	7,519.29	6,643.18	8,262.15	9,747.53	9,705.00	11,060.60	11,001.00	10,051.80
Leas	636.15	224.13	886.72	756.57	41.85	30.24	269.85	2,765.41	1,219.75	6,030.52	8,801.72	9,711.14	11,014.75	12,194.93	13,225.55	7,068.87	15,334.57	20,103.55
Examinations	15,511.00	11,630.00	16,014.00	16,709.00	9,625.00	9,185.00	9,606.00	14,917.00	19,019.00	23,810.00	27,795.00	33,838.00	37,044.00	40,150.00	41,508.00	47,104.10	50,307.00	50,995.00
Testing Headlights	460.20	395.06	284.50	165.00	20.00													
	152,097.50	146,763.99	166,258.56	181,008.33	116,675.92	144,777.78	127,112.58	136,647.79	180,581.93	246,547.20	271,592.97	313,359.61	376,568.40	392,131.25	455,897.38	463,150.86	485,644.95	549,224.76
FINES																		
Breach of Highway Traffic Act	75,891.16	68,041.81	50,085.19	81,216.60	93,281.25	7,449.50	16,829.60	50,686.46	51,620.22	95,936.72	106,056.71	136,548.69	251,661.73	288,520.05	360,608.55	561,256.81	687,743.57	822,199.67
	2,904,146.14	3,681,946.25	3,921,106.65	4,148,109.85	2,327,762.45	9,916,737.68	9,445,459.18	9,774,584.92	13,225,676.88	14,626,763.46	15,032,938.72	17,543,517.57	20,530,698.26	21,222,202.89	24,839,616.46	26,187,023.83	28,123,457.65	31,308,179.00
Due from Agents	1,656.20	1,486.45	292.35		743.20													
	7,902,469.94	8,698,450.30	9,311,814.30	7,327,619.23														
Bank Adjustment	167.41	1,653.94	1,516.36															
NET TOTAL	7,902,637.35	8,697,104.24	9,313,330.66	10,144,469.05	7,327,619.23	9,166,732.08	9,445,599.15	9,775,584.92	13,225,686.88	14,629,163.16	15,032,938.72	17,543,517.57	20,530,698.26	21,222,202.89	24,839,616.46	26,187,023.83	28,123,457.65	31,308,179.00

ONTARIO MOTOR VEHICLE REGISTRATION



PROVINCE OF ONTARIO MOTOR VEHICLE REGISTRATIONS 1903 - 1956

(IN THOUSANDS OF REGISTRATIONS)





1,700

1,600

1,400

1,200

1,000

800

600

400

200

0

19



